



Designing E-Governance for Municipalities in India

Section 4: Implementation Framework

Final Report

Indo-USAID Financial Institutions Reform and Expansion Project—
Debt & Infrastructure Component (FIRE-D Project)

USAID-TCGI Contract No. 386-C-00-04-00119-00

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I. Implementation Framework

I.1 Introduction

Setting a strategic direction and vision for Municipalities is an important starting point for the implementation of e-government initiatives in India. The vision typically directs all municipalities to leverage the power of the Internet and information technology to deliver services electronically to its stakeholders.

While, MoUD through this document and its ongoing efforts, has developed a comprehensive strategy for initiating e-Governance in Municipalities (refer section 1 of the report), its effectiveness would largely be driven by how far are those reflected by States in their own e-Governance strategy.

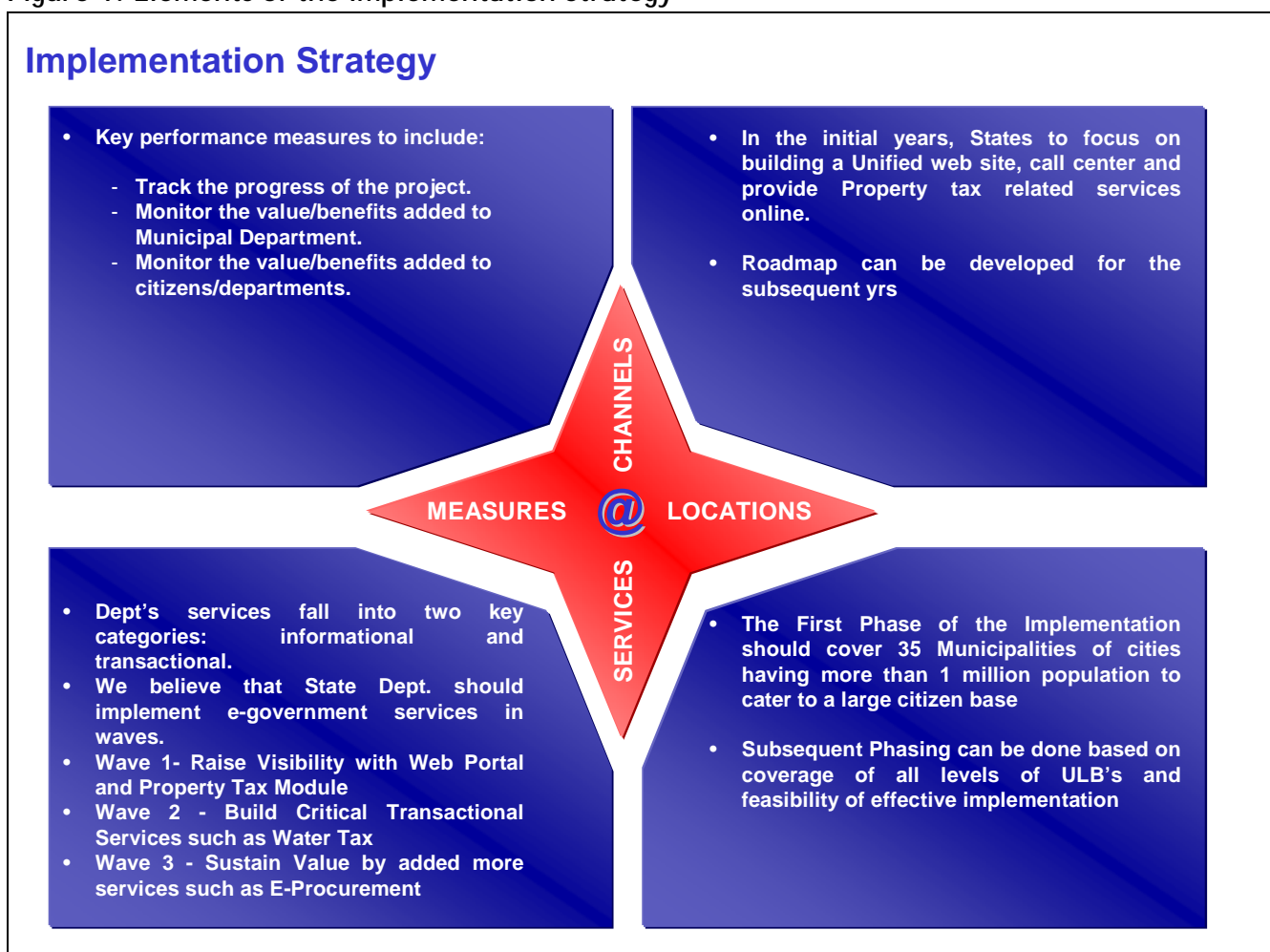
Thus, the starting point of the implementation strategy for NMMP would be the development of State-level municipality's e-Governance strategy and implementation roadmap, in order to effectively improve the quality of the services that it provides its various customers.

As a part of drawing up the e-government vision & strategy, the following key components need to be considered:

- Focus on key operational elements:
 - Services
 - Electronic Delivery Channels
 - Performance Measures and
 - Location Phasing
- Provide a single point of access for all municipal services and information through e-Government.
- Integrate e-Government with other delivery channels such as 'Over the Counter' to resolve any arising conflicts (e.g. duplicate transactions etc).
- Define and pursue specific and clear business benefits to Municipalities, its Customers and the Local State Government.

Figure 1 overleaf describes the key operational elements of the implementation of e-Governance strategy:

Figure 1: Elements of the Implementation Strategy



I.2 Implementation Strategy - Services

Based upon study of other successful initiatives, our recommendations for this element are summarized below:

- Municipalities/ULB services can be classified into two main categories - informational & transactional.
- Municipalities/ULBs should focus on those municipal services, which once delivered through e-Government-related channels, will deliver the highest value to Municipalities/ULBs and its customers. Municipalities should prioritize their services based on identified frameworks Further, based on our experience and our analysis, we suggest that ULBs high value services be selected first and implemented in three waves as described below:
 - Wave 1 'Raise Visibility'**; this wave of services aims to quickly raise the visibility and image of Municipalities/ULBs as an e-Government organization by establishing a professional and effective web presence. Services implemented during this wave have a wide customer base (e.g. public and/or businesses) and relatively simple delivery operations such as payment of Property Tax etc.

Focus of this wave should be on providing rich informational services to Customers. E.g. A good web-portal, with rich content can force citizens to frequently visit the web-site to seek all the necessary information about Municipalities. Similarly, a comprehensively planned Call - Centre can provide access to millions of citizens to seek informational services over phone. These initiatives, coupled with good communication strategy, will enable the Municipalities to significantly raise the visibility and image of Municipalities.

Note: Property Tax Services are included in Wave 1 for the simple reason that many a Municipalities, particularly many of those amongst the chosen 35 Municipalities have significant web-presence already. For those Municipalities, which do not have any web presence may like to start with only informational services in Wave 1, as explained above.

- **Wave2 'Build Critical Transactional Services'**; This wave aims to establish the core-critical transactional services required to support the key customer segments. The wave will focus on transactional services required for effective customer relationship management and common transactional services. Services implemented as a part of this wave enjoy high visibility and relatively complex delivery operations.
- **Wave3 'Sustain Value'**; this wave aims to sustain the value delivered to Municipalities/ULBs and its customers through implementing additional critical transactional services. Services implemented as part of this wave have generally low customer visibility.

The informational and transactional services to be provided by the ULBs need to be identified by the respective state governments in consultation with the proposed MPMU at MoUD. Table 1 below, describes the Municipal services that should be ideally implemented with each wave.

Table 1: Implementation Strategy for Services
Implementation Strategy for Services/ Processes

Wave 1	Wave 2	Wave 3
State Web Portal	Accounting	Trade Licenses
Property Tax	Building Plan Approval	Solid Waste Management
Citizen's Grievance Monitoring	Water Tax	Project/Ward Works
Birth & Death	Schemes	e-Procurement*
Call Centre	Others **	Personnel Management System*
		Others **
Other Services Proposed by Municipalities can be taken up in any wave depending upon the state e-Governance Municipality Roadmap. However, for the purpose of the NMMP only 9 modules (other than web portal and call centre) are being considered		
E-Procurement and HRMS (Personnel Management) should be undertaken in line with the State Initiative and the phasing would be dependent upon the same. The rationale for the same is detailed in Section 2 of the report.		
* To be taken as State wide Initiative		** To be identified by the State

Service Levels to be achieved for the above mentioned services are provided in Section 1 of the report. The state web portal in Wave 1 would include on-line information and

integration with other online services proposed in Wave 1. As and when services under Wave 2 and 3 are made on-line, they shall be integrated with the web portal. It may be noted that the strategy for the web portal needs to be defined by the state implementation consultant as part of the State e-Governance roadmap for Municipalities, in line with the state e-Governance strategy. This aspect has been reflected in the scope of work of the consultant (Section 1 of the report).

Alternate Strategy

It may be noted that it has been suggested that software be implemented in three "waves", with two or three modules being deployed in each wave, this may result in stand alone modules, possibly leading to little reengineering and would only end up in replicating the existing manual systems with marginal improvements in productivity/service delivery to citizens.

To overcome this, each software module should be developed in phases with the initial development taking care of the minimum data capture to ensure creation of common masters that are used across modules. The software that can deliver services with high external visibility can be developed in greater detail in the first phase as suggested. This can be followed by additional functionality being added to each of the module in the next phase.

For example: the HR module as described by section 2 may be the ultimate module. What is required initially is the organizational hierarchy, as well as the names of people occupying each post (and the process of transfer to and from a post). This would enable the roles/authorization in each software module to be linked to the position of a person in the hierarchy. The salary module could be developed in the 2nd wave (once the accounting package is ready), while the other modules could be added in the third wave.

Similarly, for the procurement module, the more complex procurement options could be developed in wave 2 and 3, the first wave module should allow each procurement proposal to be published on the web with down loadable tender documents. The next wave may make it mandatory to display on the web site the details of the works awarded as well as the expenditure on each work in progress, etc (this again could come from the accounting module).

For property tax module, the initial software could focus on the collection of tax (issue of demand notice, collection of taxes, management of receivables, etc) and attempt to capture the basis attributes (area, year of construction, name of owner, etc) of each property. Assessment module could be developed in the second wave and make use of the data collected in the first wave software. The first wave module would also make available data for accrual of receivables that would be required for the accounting software.

I.3 Implementation Strategy - Electronic Delivery Channels

Based upon study of other successful initiatives and our own experiences in the market place, recommendations for this element are summarized below (Also depicted in the Table 2 overleaf):

- Municipalities/ULBs have five possible electronic channels to deliver electronic services these include Internet (Corporate Web Site), Call Center, Kiosk, Mobile Computing (e.g. WAP phones) and Digital TVs.
- Municipalities/ULBs should pursue a phased and structured approach for deploying the various electronic channels to support E-Government. This will ensure a successful implementation and the protection of Municipalities/ULBs investments. The following are recommended:
 - **Phase 1 - Primary Channels.** For the first two years, Municipalities/ULBs should focus on developing two key channels covering the Internet and a Call Center. These two channels enjoy high public awareness, extended service applications and mature technologies. Furthermore, the investments required to establish these channels are manageable.
 - **Phase 2 - Extended Reach.** During the following two years (i.e. 3rd and 4th years), Municipalities/ULBs should seek to integrate its two existing channels (i.e. Internet and Call Center) by addressing the issues of channel conflict and distributed customer access. Furthermore, Municipalities/ULBs should expand its coverage through establishing a network of kiosks and amending its corporate web site with mobile computing capabilities. Kiosks allow distributed and remote access to Municipalities/ULBs corporate web site for those customers who do not own personal computers. Mobile computing capabilities allow customers to access Municipalities/ULBs corporate web site through their own regular mobile phones.
 - **Phase 3 - Secondary Channels.** During the fifth year. Municipalities/ULBs should have completed the integration of its basic channels (i.e. Internet, Call Center, Kiosk and Mobile Computing). We believe that at this stage, Municipalities/ULBs should consider establishing the Digital TVs channel. This channel is expected to have wide customer base and reliable infrastructure in the years to come.

Table 2: Implementation Strategy - Access Channels

Phase I	Phase II	Phase III
Primary Channels (Year 1-2)	Extended Reach (Year 3-4)	Secondary Channels (Year 5 and beyond)
<ul style="list-style-type: none"> ▪ Department Counters ▪ Internet ▪ Call Centre ▪ Mobile computing - Information 	<ul style="list-style-type: none"> ▪ Shared Service Kiosks ▪ Mobile computing - Transaction 	<ul style="list-style-type: none"> ▪ Digital TV

I.4 Implementation Strategy - Performance Measures

Based upon study of other successful initiatives and our own experience in the market place, recommendations for this element of the implementation strategy are summarized below:

- Municipalities/ULBs should define specific business goals for E-Government to deliver value to Municipalities/ULBs itself and Customers in line with the service metrics defined in the design phase report.
- Municipalities/ULBs should implement performance measures to manage the implementation of E-Government and ensure the realization of tangible business benefits. These measures include the following:
 - **Progress Tracking Measures:** involves establishing a set of quantitative indicators to measure the progress achieved in implementing E-Government. For example, Municipalities/ULBs should carefully monitor the percentage of citizen transactions executed electronically through E-Government. This will enable Municipalities/ULBs to assess the existing utilization of the channel and the effectiveness of its delivery mechanisms
 - **Municipalities/ULBs Value Measures:** involves establishing a set of quantitative indicators to measure the benefits gained by Municipalities/ULBs through using E-Government. For example, Municipalities/ULBs should carefully monitor the operational overhead (i.e. cost) to deliver a certain Municipal service. The use of E-Government should help to reduce that
 - **Citizen Value Measures:** involves establishing a set of quantitative indicators to measure the benefits gained by citizens through using E-Government. For example, Municipalities/ULBs should carefully monitor the number of visits a citizen conducts to request and follow-up a specific transaction. The use of E-Government should assist Municipalities/ULBs customers to minimize the number of these visits.

- **Business Value Measures:** G2B measure for electronic delivery of business oriented services (separate from G2C) so that target audiences are well defines and proper focus can be given to each segment

I.5 Implementation Strategy - Location Phasing

The entire Stage 1 implementation (423 Municipalities) under NMMP is to be completed within a period of five years. In the First Phase (Year 1), 35 Municipalities have been included. The 35 municipalities have been selected, as they have more than 1 million population and cover a large proportion (approximately 20%) of India's urban population.

The first phase is to create a visibility in many states and cover a wide area of the population (more than 35 million, in all.). One of the reasons for suggesting only one million plus 35 cities in the phase I implementation is that this phase would help not only focus implementation efforts, but would also cover a significant population of Urban India. Besides, it would also help in evaluating the efficacy of the various Design Phase elements that would in turn, help reduce the time taken for subsequent rollout.

Accordingly, the entire NMMP is proposed to be rolled out over a five-year period, in five phases (waves) as presented below (Table 3). This phasing is largely indicative in nature and has been designed taking into account the following:

- The time taken for implementing the various e-Governance Modules proposed under NMMP in ULBs during the initial years would be longer
- Managing implementation of larger number of ULBs in the initial years would be difficult
- Implementation during the initial years would provide significant lessons that need to be replicated as the implementation spreads to other ULBs
- High visibility should be achieved so that enough demand pull for the programme can be achieved
- It is envisaged that the NMMP (covering 423 Municipalities) would be implemented in the following way:
 - Year 1: Cities with population more than 10 lakh
 - Year 2: Cities with population more than 5 Lakh and 10% of the balance 354
 - Year 3 to 5: 33% each year of the balance 319.

Table 3: Implementation Phasing

Phases	ULBs Covered
Phase I - 1 st Year	35
Phase II - 2 nd Year	69
Phase III - 3 rd Year	106
Phase IV - 4 th Year	106
Phase V - 5 th Year	107
Total	423

It must be recognized that the success of any e-Governance initiative depends on the willingness and the ability of the organization to adapt to the change rather than the mere size of the organization, or the supply of hardware/software/training.

Similarly, e-readiness of an organization is critical before it can accept online computerized processes. This would depend upon human resources, connectivity, project champions, etc, amongst other parameters. It is also a fact that each organization can accept change at a given pace, which is initially slow, and gathers speed as the benefits from the same become apparent. Also smaller organizations are more amenable to change than large organizations. Thus:

- The computerization of each ULB must be done in phases. Even in large metros we should not attempt to computerize more than 10-20% of the functions every year. This also fits well into the earlier concept of development of software in waves.
- Those that are more ready to accept the change process must be given a priority, rather than following one ULB size based norm for the country as a whole.

II. Implementation Plan -Key Components

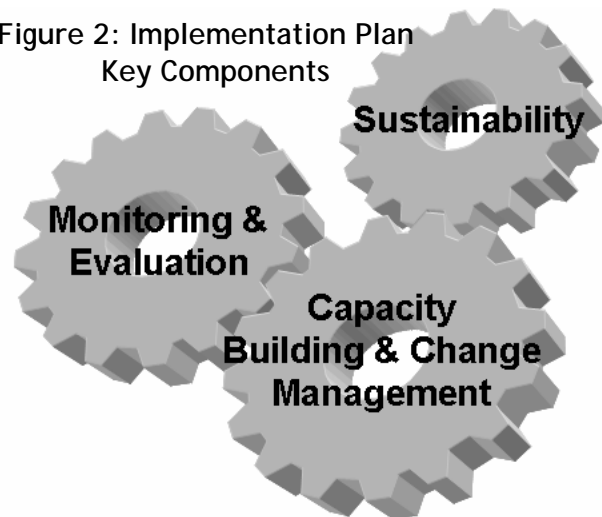
II.1 Overview

This section delves on the other key components of the implementation strategy, which are perceived to be pre-requisite for ensuring time bound implementation of the NMMP. The MMP requires certain pillars to prop it up, in order to ensure effective implementation.

In this section, recommendations are provided for the three pillars (Figure 2), which shall play a key role in achieving the objectives of the NMMP for Municipalities. These building blocks are:

- Capacity Building and Change Management Guidelines
- Sustainability - Guidelines for Structuring projects under PPP
- Monitoring and Evaluation Framework

Figure 2: Implementation Plan
Key Components



II.2 Capacity Building & Change Management

The primary aim of capacity building in the context of NeGP and NMMP is to create a dedicated and suitable capacity to prioritize, conceptualize, develop and manage the e-Governance projects so as to ensure sustainability - managerial and institutional.

This section presents recommendations to capacity building and change management. These recommendations are largely based upon the report submitted by NISG and CGG on Capacity Building for Municipalities and supported by our past experiences in similar projects, both at national and international levels.

The importance of building capacities within Government to implement e-Governance projects is now well recognized. The office of the Comptroller and Auditor General (CAG), Government of India, has pointed out the need for conducting an audit of e-Governance projects in various fields such as controls, security, integrity and compliance with compatibility to international standards. The CAG has also suggested an audit of Information Technology projects at various stages of e-Governance (i.e. after system design, system testing, Pilot Go-Live etc).

To address these issues, NeGP has an integral component of "Capacity Building", in which the State Governments and implementing departments are required to build capacity (in terms of resources of people, process and tools) for conceptualizing, developing and managing the e-Governance projects under NeGP. Under NeGP, the

State Governments have been provided the flexibility to augment their capacities. Broadly, the capacity building would have the following elements:

- **Change Management Expertise:** Dovetail the objectives/ standards/ infrastructure of the State Government with individual projects at department level and manage change. In addition, should have the capacity to scale-up resources as and when required.
- **Technology Expertise:** Conceptualize and develop the information systems/expertise in all sub-domains of Information Technology.
- **Financial Management Expertise:** Conceptualize financially viable/sustainable projects and to manage finances, develop financially viable initiatives, specify needs, manage procurement and manage vendors.
- **Program Management Expertise:** Manage projects, catalyze change and build capacity to scale-up.
- **Functional Expertise:** Domain knowledge and expertise in the functions/ services provided by ULBs for effective implementation.

This section is broadly covers the following aspects to provide guidance to the States for building capacity at various levels:

- Institutional framework for building capacity at the states. State e-Governance Mission Team and Municipal Project e-Governance Mission Team (PeMT) are proposed at two levels to drive the e-Governance program at the state
- Capacity gaps in areas of Policy and Implementation in different levels of functionaries
- Identify the Training needs and the institutional setup to impart training
- Define the Training areas and Target groups

II.2.1 Suggested Institutional Framework for Capacity Building

The capacity building requirements of the NMMP programme are discussed in detail in Section 1 (Programme Design) of the report. This section focuses on implementation aspects of the capacity building requirements covered in Section 1 of the report. As indicated before, Capacity is proposed at two levels in the State Government to drive the e-Governance program in Municipalities (aligned with NeGP Capacity Building Framework). These are:

State e-Governance Mission Team (SeMT) - at the State Level

A dedicated capacity is required at the State level to provide an overall direction, standardization and consistency through program management of e-Governance initiatives running in the State Government.

All interdependencies, overlaps, conflicts etc. across projects as well as core and support infrastructure shared across several projects would fall under the purview of this group. On a broad level the capacity at the State Level would:

- Function as a permanent advisory body to the State Government/NeGP State Apex Committee (expectedly under chairpersonship of Chief Secretary) in undertaking e-Governance projects
- Institutionalize process and tools for effective program management of e-Governance initiatives
- Provide inputs to the State Government during IT policy/roadmap making process
- Assist individual departments of the State Government in putting together a dedicated team for undertaking e-Governance projects in their departments and managing the process (i.e. building capacity at the department/project level) through the constitution of individual project groups (DEG).

Municipal Project e-Governance Mission Team (PeMT) at the Department/Project Level

A dedicated capacity is required by the Urban Administration Department in the State Government for conceptualization and management of the NMMP. On a broad level the capacity at the Department/project level would:

- Work in close consultations and co-ordination with the ULBs to conceptualize and preparation of the Project Reports
- Identify (and plan the process) for BPR (administrative, legal and process changes) required for improving the efficiency of the department through e-Governance
- Provide assistance to the ULBs for change management, financial sustainability, technology expertise
- Provide project management and implementation support
- Assist the ULBs in institutionalizing the processes and tools required for managing the program
- Engage agencies for hardware, networking, software development, data entry etc during the implementation of the projects.

The SeMT and PeMT would be a set of resources available to the State Government and its Departments, to Prioritize, Conceptualize, Develop and Manage the e-Governance projects. These resources would be built on the following cornerstones:

- People (with relevant experience)
- Processes and
- Tools/ Systems/Technology.

While funding for SeMT has already been made as part of NeGP, funding support for PeMT through the appointment of state implementation consultants has been provided for in the NMMP design.

II.2.2 Capacity Gaps in Municipalities

Keeping the NMMP vision in consideration, the identified capacity gaps are presented in the Table 4:

Table 4: Capacity Gaps in Municipalities

Capacity Building Areas, Levels and Gaps		
Policy	Functionaries at Different Levels	Specific Capacity Gaps
<ul style="list-style-type: none"> • e-Government • e-Municipality Vision • Strategic Decision Making • Strategic Direction • e-Governance Standards • Monitoring • Evaluation • Capacity Building and Training 	<ul style="list-style-type: none"> • Senior Officials of Gol, MoUD • Senior Officials of State MA & UD Department • Elected Representatives • Commissioners of Municipal Corporations 	<ul style="list-style-type: none"> • Gaps in understanding the role of IT to improve the quality of services to citizens and on the concept of e-Municipality • Inadequate exposure to National and International Best Practices • Inadequate interface with other players such as the corporate sector, CBOs etc. • Lack of Institutional Mechanism at National, State and ULB Level to implement capacity building for e-Governance in ULBs • Lack of appropriate skills, background and aptitude • Lack of proper IT training to meet the capacity requirements
Implementation		
<ul style="list-style-type: none"> • GPR • Change Management • Financial Management • PPP models • Technology Management • Project Management • Procurement Management • Preparation of scope of work • e-Applications <ul style="list-style-type: none"> ◦ e-Development Services - Building ◦ e-Administration and HRM, Legal Cases ◦ e-Accounts ◦ e-Property Tax ◦ e-Performance Management ◦ e-Utility, ◦ e-Project Management ◦ e-Procurement ◦ e-Information ◦ e-Grievances ◦ e-Communications 	<ul style="list-style-type: none"> • Senior Officials of MA & UD Department • Municipal Commissioners of all grades • Municipal Functionaries such as Revenue Officers, Accountants, Town Planning Officers, Health Officers, Municipal Engineers, Community Development Officers, Municipal Managers, Law Officers, etc. • Experts with Domain Knowledge in the Sector 	<ul style="list-style-type: none"> • Lack of appropriate skills, background and aptitude • Inadequate Training in Functional Areas • Lack of exposure to Best Practices • Inadequate skill sets within the Government (for project development and implementation) • Lack of exposure to IT, and IT training to meet the capacity requirements • Inadequate scope to innovate or experiment new e-Governance initiatives due to lack of financial and manpower resources • Lack of basic IT training to meet the capacity requirements • Lack of skills in managing citizen relations efficiently.

To address the capacity gaps identified above, the following areas of capacity building at various levels of ULBs has been identified (Table 5):

Table 5: Identified Capacity Building Areas

Capacity Building Areas, Levels and Strategy				
Policy	Cross-section of Functionaries at Different Levels	Legal and Institutional	Strategy for Capacity Building Organization	Human Resource Development/ Training
<ul style="list-style-type: none"> e-Government e-Municipality vision Strategic Decision Making Strategic Direction e-Governance Standards Monitoring Evaluation 	<ul style="list-style-type: none"> Elected representatives Senior Officials of GoI, MoUD Senior Officials of State MA & UD Department Commissioners of Municipal Corporations 	<ul style="list-style-type: none"> e-Municipality Policy Institutional Framework for e-Governance in ULBs National Level Steering Committee & Mission Team for eMunicipality Policy for Human Resources Sourcing Policy for Private Sector & community sector Participation 	<ul style="list-style-type: none"> Strengthening the MoUD on e-Governance Capacities Creating a Special Cell dedicated to eGov in Municipalities with linkages to other agencies Resource Mobilization and Utilization Plan Sourcing of carefully selected personnel from Govt, PSUs or any state agency or central agency with required background & experience, or CIOs or Dy. CIOs. Sourcing personnel from the private sector wherever required. 	<ul style="list-style-type: none"> Sensitization on the principles of e-Gov to disseminate a correct understanding of the subject. GPR Project Management & Quality Assurance Standards. Government Process Engineering and Change Management Service Level Agreements & their enforcement. Learning from existing e- Government projects. Preparing RFPs Selection of external agencies Managing and getting the best out of external agencies Internalizing the outputs/reports of the external agencies, Quality assurance, doing cost-benefit analysis amongst various Technological and other policy options Working Knowledge and skills on PPP models, IT Architecture and Standards Learning from existing e- Government projects and case studies
Implementation				
<ul style="list-style-type: none"> GPR 	<ul style="list-style-type: none"> Senior Officials 	<ul style="list-style-type: none"> State and ULB 	<ul style="list-style-type: none"> Strengthening 	<ul style="list-style-type: none"> IT Skills covering

<ul style="list-style-type: none"> • Change Management • Financial Management • PPP models • Technology Management • Project Management • Procurement Management • Preparation of scope of work 	<ul style="list-style-type: none"> of MA & UD Department • Municipal Commissioners of all grades • Municipal Functionaries such as Revenue Officers, Accountants, Town Planning officers, Health Officers, Municipal Engineers, Community Development Officers, Municipal Managers, Law Officers, etc. • Experts with Domain Knowledge in the Sector 	<ul style="list-style-type: none"> Level Steering Committee and Mission Teams for eMunicipality • Policy for Human Resources Sourcing • Policy for Private Sector and Community Sector Participation 	<ul style="list-style-type: none"> the Stat MA & UD Dept. on eGov Cap. • Creating a Special Cell dedicated to eGov in Municipalities with linkages to other State agencies and parastatals • Resource Mobilization and Utilization Plan • Sourcing of carefully selected personnel from State Govt. with required background & experience. • Instituting the position of State Urban Information Officer (SUIO) at the State level and Municipal Information Officers (MIOs) for each ULB • Sourcing personnel from the private sector wherever required. 	<ul style="list-style-type: none"> Hardware, Software, Networking, Online and Offline Tools Database Management, Basic Programming, eApplications, etc. • Nuances of Project Management including PPP Arrangements
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II.2.3 Training and Change Management Needs

One of the most basic and yet most important issue to 'Change Management and Training' is that ULBs do not have structured training programmes. Even if they exist, they address specific aspects of functional skills. Human resource development in ULBs needs to be considered in the current scenario of emerging urban challenges.

Human resource development must receive policy and top-management level support otherwise little will be achieved out of the reform efforts. Municipalities must rely on the quality of their staff as well as the technology they use to provide service. Training programmes need to be designed targeted at the specific needs at different levels to meet demands. In addition, induction training for new starters, development training of municipal officers and the introduction of new technologies should also be offered.

A major portion of the capacity building exercise is done through training. However, training includes programmes for skill development and for competency development. These are common to the officials of ULBs, the States and Centre. The ULB employees would need detailed training, while higher-level officials would need more of an overview. The focus of training for the state/centre level officials would be project management, review procedures, planning and review processes, etc.

II.2.4 Institutional Setup for Implementing Training Strategy

A detailed description on the existing set up of municipal system, the inter-linkages, and the proposed institutional framework has already been discussed in this report. The key nodal agencies identified in the framework are responsible for:

- Developing a Capacity Building and Training Strategy at National and State Level
- Training Coordination at National, State, and ULB Level.

Keeping in view the large size and diverse nature of the target groups, designing and coordinating the training programmes at various levels is a gigantic task. It is therefore necessary to establish strong linkages with central and state government training institutions, public sector training institutions, autonomous research and training institutions, and private sector institutions.

This would facilitate access to a large pool of resource persons, intellectual resources and infrastructure facilities. The focus being on e-Governance training, tie-up with institutions specializing in IT training becomes imperative. In this context, the overall training objective is three fold:

- Building capacity in using ICTs to maximize efficiency in local government administration
- Developing capacity to provide citizens and private organizations with government information, optimizing transparency and enhancing decentralization and
- Developing capabilities to deliver e-services to the citizens and private organizations.

II.2.5 Training Needs Assessment (TNA)

The TNA should clearly define the skills, capability and knowledge that individuals in each role in municipalities (Centre/State/ULB level) must have if they are to excel and

develop. TNA needs to be carried out for all Departments of MoUD, municipal state departments, ULBs and linked departments. The parameters for the assessment are defined in the Table 6

Table 6: Training Need Assessment

S.No	Functional Areas	Parameters
1.	E-Governance Strategy	<ul style="list-style-type: none"> • Planning process • Adequate budget and timely disbursement • High-level commitment - partner responsibilities • Monitoring and evaluation (international project) • Targets for enabling environment: policy/decision makers (elected officials) and "hybrid professionals" (managers, information specialists, lawyers, etc.) then later ICT specialists.
2.	Information	<ul style="list-style-type: none"> • Planning • Interlinking with other Departments • Support Services to be outsourced • Security/Confidentiality • NeGP
3.	Technical Services	<ul style="list-style-type: none"> • Appropriate and inappropriate use of ICTs • ICT resource management (from user view) • ICT acquisition/compatibility (including open source software) • Infrastructure support (e.g. Internet backbone, satellite systems, etc.) • Management of "back office" • Maintenance
4.	Training Methodology/Delivery	<ul style="list-style-type: none"> • User needs analysis • Networking: involve all government departments (committee, brainstorming) • Basic level training first => motivation => technical competence • Work plan • Training of trainers • Promoting interest/overcoming trainee resistance ("social therapy" approach) • Use of software (hands-on) • Quality assurance
5.	Technology	<ul style="list-style-type: none"> • Local area networks • Internet connectivity • Compatibility at national and local levels • Maintenance (training infrastructure)

The overall management of training in the urban sector could be under the State Secretary (UD) or Director Local Bodies at the State level supported by a State Committee and PIUs. Training institutions with experience in training in specific areas of need and also with adequate infrastructure facilities can also be considered for this purpose. These include:

1. The State Government Institutions (ATIs) cater to the training needs of senior, middle and junior level Government officials. Most of the training courses offered by these institutes relate to administrative matters, office procedures, change management, disaster management, etc.

In the IT domain, many ATIs have introduced training courses in computer basics, office automation tools like MS Office, usage of Internet, etc. In the context of capacity building for e-Governance in Municipalities there is a need to strengthen the capacity of these institutions. Separate cells need to be set up in the ATIs to handle the capacity and training needs of e-Governance in general, and the ULBs in particular. Resource persons need to be taken to handle courses on project development, preparation of RFPs, project management and other key skills. This would help the states in enhancing the capacity of the staff in the Municipal Administration department and ULBs to handle e-Governance projects.

2. Municipal Chief Information Officers (CIOs) and State Urban Information Officers (SUIOs) form the core of the e-Governance implementation team at the ULB level. Hence, they need to undergo rigorous training in all aspects of e-Governance starting from basics to advanced courses and e-Applications. To facilitate this process, the state ATIs could be involved to handle this training need. More so because, of the wide geographical spread of ULBs and availability of district level ATI training centres.

3. At the Central level, say, 'National Institute of Urban Affairs' can be used to impart training to the senior level staff such as secretaries and senior Officials from the Government of India departments, secretaries, heads of departments, senior officials, and municipal commissioners at the state and the ULB level. NIUA can develop linkages with the e-Governance training cells, to be established at the state ATIs. Training modules will be developed by NIUA and disseminated to the state Level ATIs for adoption. This ensures uniformity in the course content and avoids duplication of work.

4. Another important dimension for e-Governance Training is the access to the pool of e-Governance experts, intellectual resources in terms of course modules, and distance learning modules, and specialized hardware and software, particularly for high-end training. To meet this requirement it is important that NIUA along with the state-level ATIs have a strategic tie up with autonomous institutions and corporate sector institutions specializing in the field of e-Governance applications.

5. Interactive Onsite Learning (IOL) can also be provided with a central instructor in the NIUA delivering the lecture and the participants attending the training in the ATIs. Reputed institutes like IIMs have tied up with broadband satellite based education providers and are offering courses through distance learning mode. This system allows large number of geographically dispersed participants to have a highly interactive, "one to one" exchange with a central instructor. This system incorporates live video, audio and data, all using the most convenient of all user interfaces - the PC, which is

connected over a local area network to a satellite transceiver that in turn connects to the central studio. There are numerous benefits - there are savings in terms of both cost & time, there is no loss of productivity, participants get trained in their respective locations, at the same time, by the same instructor.

6. Online Courses and Computer-based training can be carried out to supplement the above mentioned programs. Mode of instruction could be through an interactive CD, through e-mail or online through internet. Online instructions could be provided through the State website (if operational) or through the website of the agency providing training courses.

II.2.6 Training Areas and Target Groups

Table 7 summarizes the identified training areas and target groups.

Table 7: Training Areas and Target Groups

S.No	Training Areas	Core Modules	Target Groups		
			Central Level	State Level	ULB Level
1.	e-Governance for Good Urban Governance	1. Characteristics of Good Urban Governance e-Governance 2. Vision, Mission and Objectives 3. eGovernment Strategy 4. National ICT Policy Framework (NeGP)	1. Secretary, 2. Joint Secretary, 3. Deputy Secretaries/Directors (Various Functional Areas) , 4. Senior Director(Technology), NIC , External Experts on full-time contract basis	1. Senior Officials of MA & UD Department	1.Elected Representatives Municipal 2. Commissioners of all grades
2.	eMunicipality Champion Programme	1. Enabling Environment for eMunicipality 2. Best Practices Cases 3. Leadership Aspects 4. Lessons Learnt	NA	1. Senior Officials of MA & UD Department	1. Commissioners of all grades
3.	Change Management	1. Addressing Mindset Issues	1. Secretary, 2. Joint	1.Senior Officials of MA & UD	1.Elected Representatives Municipal

		<p>2. Process Improvement</p> <p>3. Developing Reform Strategy</p>	<p>Secretary,</p> <p>3. Deputy Secretaries/Directors (Various Functional Areas) ,</p> <p>4. Senior Director(Technology), NIC , External Experts on full-time contract basis</p>	Department	<p>2. Commissioners of all grades</p> <p>3. Municipal Engineers</p> <p>4. Municipal Health Officers</p> <p>5. Town Planning Officers</p> <p>6. Revenue Officers</p> <p>7.Accountants</p> <p>8. Municipal Information Officers</p>
4.	Programme Management including RFP and SLA	<p>1. Project Implementation and Management</p> <p>2. Design Standards, Version Control, Documentation</p> <p>3. Programme Management and Operations Control</p> <p>4. PPP Issues and RFP and SLA Documentation</p>	<p>1. Secretary,</p> <p>2. Joint Secretary,</p> <p>3. Deputy Secretaries/Directors (Various Functional Areas) ,</p> <p>4. Senior Director(Technology), NIC , External Experts on full-time contract basis</p>	1.Senior Officials of MA & UD Department	1. Commissioners of all grades
5.	Process Reform Management	<p>1. Government Process Reengineering</p> <p>2. Simplifying Procedures</p> <p>3. eTools for GPR</p>	NA	1.Senior Officials of MA & UD Department	<p>1. Commissioners of all grades</p> <p>2. Municipal Engineers</p> <p>3. Municipal Health</p>

					<p>Officers</p> <p>4. Town Planning Officers</p> <p>5. Revenue Officers</p> <p>6. Accountants</p> <p>7. Municipal Information Officers</p>
6.	Basics of Functional Modules	<p>1. Processes under the 9 functional modules</p> <p>2. Administrative overtones of new rules & regulations</p>	<p>1. Middle-Level & Junior Level Officers of MoUD, Support Staff,</p> <p>2. Members of Specialized e-Governance Cell, Officers from NIC</p>	<p>1. Middle and Junior Level Officials of MA & UD</p>	<p>1. Municipal Information officers</p> <p>2. Municipal Engineers</p> <p>3. Municipal Health Officers</p> <p>4. Town Planning Officers</p> <p>5. Municipal Managers</p> <p>6. Revenue Officers</p> <p>7. Town Project Officers</p> <p>8. Accountants</p> <p>9. Sanitary Supervisors</p>
7.	Financial Management	<p>1. Financial Project Appraisal</p> <p>2. Project Viability Analysis</p> <p>3. Business Models or PPPs</p> <p>4. Budgeting and</p>	<p>1. Secretary,</p> <p>2. Joint Secretary,</p> <p>3. Deputy Secretaries/Directors (Various Functional</p>	<p>1. Senior Officials of MA & UD Department</p>	<p>1. Commissioners of all grades</p>

		Accounting	Areas) , 4. Senior Director(Technology), NIC , External Experts on full-time contract basis		
8.	Technology Management	1. Systems Requirement Specification 2. Systems Integration 3. Solution Architecting 4. Software Development Life Cycle 5. Technology Selection 6. Technology Trends	1. Secretary, 2. Joint Secretary, 3. Deputy Secretaries/Directors (Various Functional Areas) , 4. Senior Director(Technology), NIC , External Experts on full-time contract basis	1.Senior Officials of MA & UD Department	1. Commissioners of all grades 2. Municipal Information Officers
9.	Procurement Management	1. Procurement Reforms 2. eProcurement	1. Secretary, 2. Joint Secretary, 3. Deputy Secretaries/Directors (Various Functional Areas) , 4. Senior Director(Technology), NIC , External Experts on full-time contract basis	1.Senior Officials of MA & UD Department	1. Commissioners of all grades 2. Municipal Engineers 3. Municipal Health Officers
10.	Knowledge Management	1. Knowledge Resources Management	NA	NA	1. Commissioners of all grades

		2. Internet 3. Portal 4. HTML basics 5. Knowledge Dissemination			2. Municipal Information Officers
11.	Basic Skills/ Office Suite/ Internet	1. Introduction to Computers, Files, Folders, Menus, Shortcuts, Word Processing and Printing. 2. MS Office(Word, Excel, Power Point) 3. Internet(surfing) and WWW 4. E-mail and Instant Messengers	1. Middle-Level & Junior Level Officers of MoUD, Support Staff, 2. Members of Specialized e-Governance Cell, Officers from NIC	1. Middle and Junior Level Officials of MA & UD	1. Municipal Information officers 2. Municipal Engineers 3. Municipal Health Officers 4. Town Planning Officers 5. Municipal Managers 6. Revenue Officers 7. Town Project Officers 8. Accountants 9. Sanitary Supervisors
12.	Basics of Operating Systems, Basics of Software Applications	1. Introduction to OS 2. Different types of OS (Windows & Linux) 3. Computer viruses 4. Introduction to Software Development 5. Software Applications	Members of Specialized e-Governance Cell, Officers from NIC	NA	Municipal Information officers
13.	Basics of Hardware and	1. Basic Components of Computer(including	Members of Specialized e-Governance	NA	Municipal Information officers

	Networking Concepts	<p>devices)</p> <p>2. Introduction to Computer Networks</p> <p>3. Client-Server Architecture</p> <p>4. Distributed Systems</p> <p>5. PANs, LANs, MANs and WANs</p> <p>6. Intranet File and printer sharing</p>	Cell, Officers from NIC		
14.	Basics of Programming Languages and Small Application Development, Basics of Algorithms	<p>1. Algorithm and pseudo code designing Introduction to Programming Languages</p> <p>2. Software Development - Design, Implement, Test Integration etc.</p>	Members of Specialized e-Governance Cell, Officers from NIC	NA	Municipal Information officers
15.	Online Technologies- Web-based Applications and Offline Technologies	<p>1. Introduction to Internet technologies (HTML, DHTML , XML)</p> <p>2. Scripting Languages (JavaScript, VBscript,)</p> <p>3. Offline tools</p>	Members of Specialized e-Governance Cell, Officers from NIC	NA	Municipal Information officers
16.	Basics of Database Management (Concepts) And Hands On Experience ion DBMS (Oracle.	<p>1. Introduction to DBMS</p> <p>2. RDBMS</p> <p>3. Oracle</p>	Members of Specialized e-Governance Cell, Officers from NIC	NA	Municipal Information officers

	Post gre sql)	4. Postgress 5. MSSql 6. MS-Access			
17.	e-Municipality Software Applications	1. e-Property Tax 2. e-Building Plan Approval 3. e-Civic Services 4. e-Procurement 5. e-Administration 6. e-Accounting 7. e-Grievances	1. Members of Specialized e-Governance Cell, Officers from NIC	1. Middle and Junior Level Officials of MA & UD	1. Municipal Information officers 2. Municipal Engineers 3. Municipal Health Officers 4. Town Planning Officers 5. Municipal Managers 6. Revenue Officers 7. Town Project Officers 8. Accountants 9. Sanitary Supervisors

II.2.7 Other Considerations

Training programmes, as summarized in the Table 7 need to be designed for and targeted at the specific needs of different levels of the MMP structure. In addition, induction training for new starters, development training of municipal officers and the introduction of new technologies also need to be offered. Training programmes should be a regular affair and should be continuously evolving. Training programmes could evolve by including new modules and rules (as and when implemented) and newly transferred, promoted or recruited officials.

Induction Training

Ideally, every new employee should be given induction training. Training could be offered for senior level functionaries covering policy, urban development, administrative procedures and practices, municipal legislation and rules and regulations, and new technology initiatives. Training to new recruits of the municipality should be provided within 6 weeks of recruitment. It can include orientation to the working environment, rules and work procedures.

Management Development

Management Development Programmes, in close collaboration with professional

institutes and funded through local technical assistance funds, could be planned for senior and middle officials to meet the needs of the targeted municipal officials. Each manager can be allocated up to a maximum of four weeks training per year. The management topics may include, leadership and motivation, communications, technology, negotiating skills, finance for non-financial managers, management of staff, presentation skills (written and oral), report writing, management of self, conducting effective meetings, basic project management, interviewing skills, computer training and conducting effective meetings.

The Management Development training could be given to (1) staff promoted to management, (2) existing managers requiring refresher training and (3) existing managers who need to learn more advanced subjects and techniques to improve performance. This training can be provided on an individual or group basis using modules available on the market or specifically designed to meet the needs of the project.

New Technology Training

In modernizing the participating Municipalities with the introduction of new technology, e.g., the introduction of computers and user applications, and the building of an integrated information system, training will be should be given to all users. Additional applications training could be arranged by the Municipality if proved necessary.

Professional and Academic Training

Capacity building can be carried out by developing and implementing education and training programmes and working in partnership with academic and professional institutions and societies, both in the public and private sectors. All municipal officials can work towards keeping themselves up-to-date with developments in their respective disciplines and seek recognition through membership of professional bodies.

Training can be open for many different levels and over different periods of time to meet a variety of needs. Long-term programmes will be used to train graduates for careers in this sector, and short-term training courses will be used to raise awareness and to train people in specific tools and techniques appropriate to their discipline.

Best Practices & Innovations

Best practices are actions, initiatives or projects which have resulted in clear improvements in the quality of life of people in a sustainable way. They are important as they offer vital lessons in building a picture of urban problems and ways to overcome them and make sustainable improvements. The best practices developed world-wide in the urban sector will be compiled communicated and, where possible, adapted for local use. It will also encourage, through research and studies, the documentation of such practices especially for use in case studies in the various training programmes.

Study Tours & Visits

It is necessary to encourage leadership, motivation and commitment to municipal reform and urban infrastructure improvement among the Municipalities. Exposure

visits will provide invaluable experiential learning where there have been successful e-government initiatives. They will also be able to study the municipal organizations and learn from their experiences in organization and management of change to provide better services to their communities through use of ICT. These visits will provide an incentive to municipal stakeholders and re-enforce the key role they have in the successful execution of the necessary municipal reforms and achievement of the project objectives.

II.3 Monitoring & Evaluation Framework

Monitoring and Evaluation (M&E) provides the link (Table 8) that would enable, on a continuous basis, to learn from experience and help MoUD to monitor the effectiveness of the NMMP. M&E tracks changes in services provided (outputs) and the desired results (outcomes), providing the basis for accountability in the utilization of funds released under the programme.

Table 8: Monitoring and Evaluation Parameters

Monitoring	Evaluation
<ul style="list-style-type: none"> Clarifies Program objectives 	<ul style="list-style-type: none"> Analyzes why intended results were or were not achieved
<ul style="list-style-type: none"> Links activities and their resources to objectives 	<ul style="list-style-type: none"> Assesses specific causal contribution of activities to results
<ul style="list-style-type: none"> Translates objectives into performance indicators and set targets 	<ul style="list-style-type: none"> Examines implementation process
<ul style="list-style-type: none"> Routinely collects data on these indicators, compares actual results with targets 	<ul style="list-style-type: none"> Explores unintended results
<ul style="list-style-type: none"> Reports progress to managers and alerts them to problems 	<ul style="list-style-type: none"> Provides lessons, highlights significant accomplishment or program potential, and offers recommendations for improvement

The M&E exercise can be carried out regularly by the Project monitoring and facilitation committee at the State Level under supervision of the Programme Steering committee. The PIU, with the Project champion and the CIO, would have to submit regular updates on their activities so as to allow the Project monitoring and facilitation committee to work effectively. The timelines and mechanisms to be adhered to are provided in the following sections.

To provide credibility to the M&E exercise, an Independent Agency could be involved for data collection and analysis. This would allow a fair and unbiased status report to be made available. Such a mechanism would allow learnings and issues to be captured in an un-biased way, which could then be implemented in the later phases of the MMP.

A quarterly or an annual meeting of the Municipalities Programme Management Unit (MPMU) and the Implementation Committee with the Central Apex committee can be

conducted to apprise the Central government of the status and achievements of the MMP.

II.3.1 M&E Processes

Having undertaken an exercise to study the best practices in developing an M&E plan, we have arrived at the following framework for implementation of a Monitoring and evaluation plan for the NMMP for municipalities:

- Identifying outcomes to monitor and evaluate (based upon the logical framework discussed before)
- Development and definition of indicators to measure the progress made towards meeting chosen objectives
- Identification of requisite data to be collected inline with the indicators identified
- Data analysis to determine outputs, outcomes and trends
- Definition of timelines and mechanisms for data reporting
- Sustaining the M&E System.

II.3.2 Definition of Key Indicators

Indicators would specify how the achievement of project objectives will be measured and verified. They would provide the basis for monitoring project progress (completion of activities and the delivery of outputs) and evaluating the achievement of outcomes (component objectives and purpose). Indicators would be established in response to the question: 'How do I know whether or not what has been planned is actually happening or has happened?' We look for indications or signs to help us.

The above mentioned question gets answered once we study the goals and objectives of the NMMP. The core objectives of the programme are to be described in detail in the Logical Framework (refer [Section 1 of the Design Phase report](#)).

Keeping these primary objectives in mind, we have identified four key indicators that have been sub-categorized into different activities.

- Project Progress
 - Milestones achieved
 - Service levels achieved
- Financial Performance of ULBs
 - Fund utilization
 - Profit/Loss incurred by ULBs
 - Profitability of different PPP models
 - Dependence of ULBs on Government treasury
- Key Stakeholder Satisfaction levels
 - Citizen survey results
 - Staff survey results
- Information dissemination (G2G and G2C)

- Provision of Information in public domain
- Preparation and availability of Audit reports
- Availability of Training Manuals

II.3.3 Requisite Data

The data collected through the various means and mechanisms need to be reported/compiled in a pre-defined format to ensure consistency. Table 9 below puts forward some formats for reporting of data for each activity covered under the Key Indicators.

Table 9: M&E Reporting Mechanism

Reporting Mechanisms	Coverage
Progress reports	Detailed milestone reports (comparison with timeframe specified at outset)
	Summary of milestone reports (comparison of projects)
	Key performance indicator reports
	Exception reports
Financial reports	Fund Flow statements
	Balance Sheet & Profit/ Loss statements of ULBs
	Summary of Balance Sheet & Revenue/Expenditure statements (at State Level)
	Comparison of Profitability among various PPP models
	Pre and Post computerization cost analysis
Survey reports conducted among	Citizens
	Staff
	Key Stakeholders
	Other Stakeholders
Information reports	System Audit
	Legislative changes
	Training carried out
	E-Assessment by the "MPMU"
	System for implementing the Right to Information Act

The reporting formats provided above have been identified in a fashion so as to provide deep insight into the functioning of the MMP. The above mentioned reports should by no means be viewed as piles of information but should be thoroughly analyzed by the State and Central Apex and Empowered committees to extract useful learnings. These learnings can be documented and circulated among the various committees and stakeholders to be used in taking better and more informed decisions for the implementation of projects in the next phase.

II.3.4 Data Collection & Analysis Methods

As we have already defined the sources of data, our next step is to define the strategies and instruments for data collection. The figure below illustrates some of the possible methods of collecting data. There is no single answer as to which method is best. It will depend on a given urban local body's resource availability, access, needs, time constraints, and so forth. It will also depend on the needs of the user of the information. For example, there may be questions about how much precision is actually needed by a given user in light of tradeoffs of cost and time. We expect that a combination of data collection strategies might work best in building the information system to support tracking each indicator, as depicted in Figure 3.

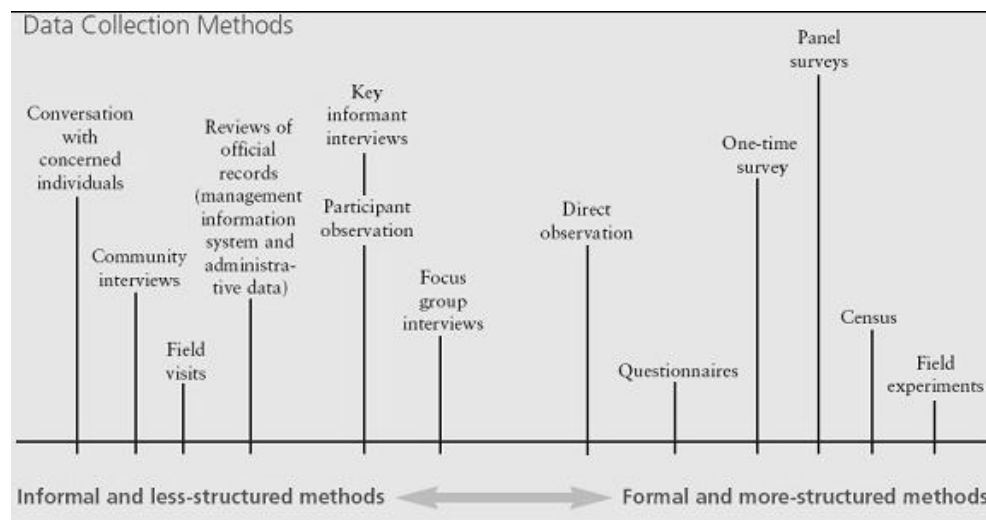


Figure 3: Data Collection Methods

II.3.5 Timelines & Mechanisms for Data Reporting

For a successful and transparent implementation of the NMMP, it is imperative to pre-define the mechanisms and timeframes for carrying out the monitoring and evaluation exercise. Table 10 provided below, highlights the specified mechanisms and timeframes we propose, to collect the requisite data, for each activity covered under the Key Indicators.

Table 10: Proposed Timeline and Mechanism for Data Reporting

Reporting Mechanisms	Coverage	Collection Mechanism	Reporting
Progress Reports	Detailed milestone reports (comparison with timeframe specified at outset)	<ul style="list-style-type: none"> Assessment at District/ ULB level Assessment at State/ Central Level 	<ul style="list-style-type: none"> Monthly Quarterly
	Summary of milestone reports (comparison of projects)	Assessment of Projects at State/ Central level	Quarterly
	Key performance indicator reports	Assessment of Projects at State/ Central level	Quarterly
	Exception reports	Reports	Quarterly/ Bi-Annual
Financial Reports	Fund Flow statements	Maintenance of fund flow records. To be submitted with B/S and P/L statements	Should be maintained Up-to-date
	Balance Sheet & Profit/ Loss statements of ULBs	Publication of financial details. To be submitted to State Apex committee	Quarterly
	Summary of Balance Sheet & Profit/ Loss statements	<ul style="list-style-type: none"> Preparation of summary at State Level Preparation of summary at Central Level 	<ul style="list-style-type: none"> Quarterly Six-monthly
	Comparison of Profitability among various PPP models	Comparison report. Learnings & recommendations to be implemented in next phase	To be published at year-end
	Pre and Post computerization cost analysis	Analysis to be carried out at ULB/ State and Central level.	To be published at year-end
Survey reports	Citizens Survey Reports	Independent Citizen survey/ feedback	Six-monthly
	Staff Survey Reports	Independent Staff survey/ feedback	Six-monthly
	Key Stakeholders Survey Reports	Independent Stakeholders' survey/ feedback	Annual
	System Audit	Follow-up on planned activities	Monthly

		at State/ ULB level. Bi-monthly follow-up at Central level.	
Information reports	Legislative changes Report	To be circulated among stakeholders.	▪ As and when legislative changes occur.
	Training Report/ Manual	Report and manual to be published for each ULB	▪ As and when capacity building exercise is completed.
	E-Assessment Report - "Centre of Excellence"	To be carried out for each ULB covered under the phase.	▪ At the culmination of each phase.

All information and data collected as per the above stated activities must be stored in an electronic format with adequate arrangements being made to ensure permanence of the data. Collection and Analysis of the data to be prepared in the above prescribed formats should be carried out by an Independent Agency, not involved in any way in the implementation of the NMMP. Given the enormity of the exercise, the Independent Agency could be appointed at the State level rather than at the District or ULB level.

It can be argued as to whether it is desired or feasible for independent evaluation. In this background it needs to be highlighted that M&E may lose its importance if it is not administered through independent process. Recognizing the importance of assessment, assessment and awareness have been identified as a programme component under NeGP. There are many projects and programme where such an approach has been designed and effectively being implemented.

II.3.6 Programme Management Tool (PMT)

National implementation consultants are proposed to be an integral part of the MPMU in executing its role of project coordinator for NMMP. In order to aid the working, especially, with respect to coordination, M&E and Knowledge management, it is proposed that MPMU should use a comprehensive PMT that would help in:

- Setting up and administration of a project scope change control process
- Setting up and administration of process for communicating interdependencies between sub project plans across the project and highlighting deviations
- Document Project risks and track progress of planned mitigation measures
- Setting and administration of a process for reporting progress on key project metrics and issue and escalation management process
- Setting Periodic Program Status Report Templates
- Setting a master document index

- Setting process for facilitating documents for review/sign-off
- Setting up and maintaining standard document, spreadsheet and project plan templates
- Obtaining requested resources necessary for the Project Team to complete their tasks. Identification of 'Hot Spots' and the provision of resource to review and address issues.

PMT can help in monitoring the entire programme management, and ensure schedule and process compliance with the agreed project process. The key tasks that are performed are project planning and monitoring, status reporting, risk assessments with recommendations to mitigate these, resource utilization and variances, validation, acceptance testing and formulation of service level agreements with the service vendors.

PMT will also allow effective knowledge transfer across the projects under NMMP with the help of proper knowledge management techniques, including monthly workshops and periodic newsletters. PMT would also aid in setting up streamlined Inter and Intra project communication channels across the e-governance project initiatives of NMMP.

In view of the above, it is suggested that one of the first tasks of the MPMU would be to implement a comprehensive programme management tool. While, there are many programme management tools available in the market, the choice of which one should be based upon the functionality spread of the tool. In any case the PMT should support the following:

- Program Dashboard: snapshot of Programme Progress
- Knowledge Repository
- Project Plans
- Issue Risk Repository - in terms of changes agreement to changes to scope and issues that have been reported and addressed

II.4. Sustainability

There are over 4000 ULBs in the country with varying sizes, levels of development, degrees of e-readiness and local variations. It is clear that no single business model would be appropriate for all the ULBs. Therefore, an attempt like this aims at examining the various dimensions of introduction of e-Governance in the ULBs, take into consideration the varying requirements and prepare a few generic models that can be adopted with minor modifications by the ULBs or states. At the outset, it is necessary to state the imperatives in the adoption of PPP Models in the e-Governance sector and the benefits arising thereof.

The objectives of selecting PPP options include:

- Finding and implementing the realistic optimal organizational and contractual forms of PPPs

- Including all aspects (technical, legal, financial and organizational) in the preparatory and implementation processes
- Enhancing municipal capacity in terms of human resources, organizational development and regulatory framework
- Meeting municipal objectives of and benefits required through PPPs
- Contributing to poverty reduction
- Establishing appropriate organizational and contractual arrangements.

The functions of ULBs can be broadly classified into 3 groups, as shown below. The functions mentioned below include those currently performed by ULBs and new functions that would be added to their responsibilities once the MMP is implemented. The new functions mainly include those for monitoring and evaluation purposes (e.g. Performance Management System, MIS etc.).

Group 1 consists of Citizen/Business facing functions such as:

- Property Tax
- Building Regulations
- Registration of Birth & Death
- Redressal of grievances
- Issue of Trade Licenses.

Group 2 consists of internal functions such as:

- Accounting
- Budgeting
- HR & Pay Roll
- Performance Management System.

Group 3 consists of "Business" Functions such as:

- e-Procurement
- Execution of works.

The above classification leads us to the following conclusions relating to the feasibility of adoption of PPP Models:

- Functions under Group 1 are the ones where the implementation of PPP Models should be done on a priority basis. This is on account of the fact that they are capable of generating streams of revenue linked to the transactions and the fact that improvements in these functions will have a direct impact on the image of the ULB and its governance.
- Functions falling under Group 2 are not amenable to PPP models, on a stand-alone basis. This can be attributed to the fact that the results of the efforts in introducing e-Government in these areas is not immediately visible and also that these functions are the core of the functions in ULBs and introduction of private elements here is bound to kick up complex organizational issues and risks.
- E-Procurement in Group 3 is highly amenable to introduction of a PPP Model. However, as experience has shown, e-Procurement initiatives are better implemented in a centralized manner, cutting across all or majority of the

departments and agencies of the government and not confined to the ULB sector or to a particular ULB.

Among the functions part of Group 2, accounting and budgeting functions need to be dealt with on a high priority basis. This could be done in a centralized manner, at the state level, as it will help aspects relating to financial discipline and also facilitate faster devolution of funds. It is also suggested that this is taken up as a national initiative which prescribes the standards and models to be followed uniformly across the country.

Though the functions have been classified in 3 groups for convenience, there are vital connections between the functions of one group and the other. These need to be kept in mind while selecting a PPP model for implementation.

Based on the above factors we recommend that:

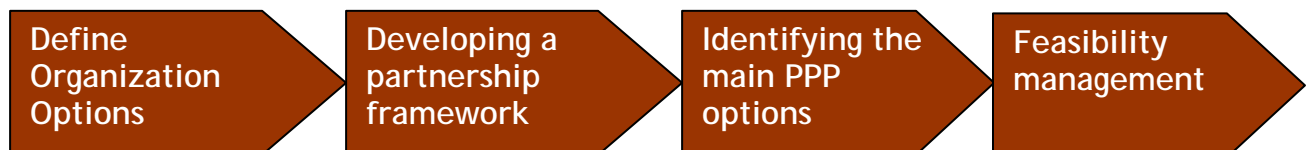
- PPP models be adopted with respect to group 1 functions on top priority.
- For greater economies of scale and scope, e-procurement should be undertaken as a state-level initiative by the respective state governments. Such a system saves ULBs from the headaches of identifying and contracting suppliers and also offers them the benefits of more competitive rates; and
- Accounting & Budgeting functions be handled at the state-level

The Municipality MMP had identified the sustainability of ULBs as a core objective at the outset. Public Private Partnerships (PPP) have been recognized world over as an ideal model for sustainability. A model, such as PPP, cannot be implemented midway of a programme and must be given due thought at the outset. Ideally, it should be a part of the implementation plan.

II.4.1 PPP Options -Selection Process

The processes involved in selecting PPP options can be presented by the procedures, as depicted in the following figure 4:

Figure 4: Process for Selecting Appropriate PPP Option



Step 1: Defining organizational options:

The organizational framework of the partnership is an important step in the decision-making process. In order to establish an organizational framework, the municipality needs to consider what type of framework will help it meet its objectives and respond to the specific opportunities and constraints of its situation. Municipalities are

encouraged to compare different organizational arrangements to see how best to reach their objectives. The operational models include those listed below:

Table 11: Operational models for PPP

S.No	Model	Description
1.	Direct contractual model	The private sector is contracted directly to the municipality.
2.	Utility model	The municipality creates an independent utility to separate responsibility for the service. The municipality has an agreement with the utility and the utility has a management contract with a private operator.
3.	Joint venture model	The public and private actors assume co-ownership of the system assets and co-responsibility for the delivery of services. The public and private sector partners can either form a new company or share ownership of an existing company.
	Community-contracting model	The municipality delegates its role to the community. In some situations, the municipality does not have a contractual relationship with the community; however, through a structured programme of change, the community establishes contractual relationships with the private sector.
	Bundling	It refers to the aggregation of components or functions to create a larger scope of work. For instance, a municipality may approach its neighbors to determine whether there are significant benefits in them presenting their problems as a part of a consolidated package.
	Unbundling	It refers to the desegregation of components within a service sector. An "unbundled" sector may enable a range of service delivery options to be adopted and may be politically helpful in introducing of a private sector approach. Breaking a service sector down into a number of parts may enable municipalities to keep control of controversial functions or it may allow them to involve a range of actors and build on existing local assets.

Step 2: Developing a partnership framework

Once the municipality has agreed an organizational arrangement, it needs to decide upon a general strategy and select a contractual option, developing a partnership framework in the process. The key elements of the partnership should be defined, discussed and agreed. This will include taking into consideration the following aspects:

- Clarifying realistic objective
- Defining the basic principles of the partnership
- Establishing the programme of change
- Defining the scope and functions of the arrangement
- Identifying the key partners, their roles and relationships
- Defining the levels of service, and how different target segments are to be reached
- Identifying the potential financing mechanisms
- Establishing the legal and regulatory framework
- Identifying the major risks.

Step 3: Identifying main PPP options

After the municipality has defined the organizational option and a strategy for developing a partnership, the next step can be taken to identify the contractual option; this in turn can formalize organizational option.

The major options for PPP can be defined clearly in terms of how they allocate responsibility for functions such as: asset ownership; the level of responsibility and autonomy delegated to the private sector; the required capital investment; regulation; the duration of the contract; and the contractual relationship with the consumer.

A broad range of alternatives that exist for PPP models are depicted in the Figure 5. The options range along a continuum within the extreme of almost complete ownership and responsibility of operations, maintenance, capital investment and commercial risk with the public sector (service and management contracts) through joint responsibility (lease, concession, BOT etc) to complete private responsibility (divestiture).

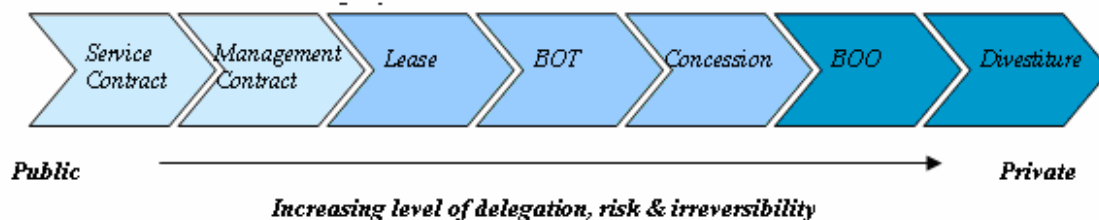


Figure 5: PPP Options

Option1: Service contracts - Service contracts are simple contracts awarded to private companies for particular tasks, such as installing or reading meters, monitoring losses, repairing pipes or collecting accounts.

Option 2: Management contracts - A management contract is a more comprehensive form of service contract, under which, the public authority appoints a private contractor to manage all or part of its operations.

Option3: Lease contracts - Under a lease contract, a service utility leases the full operation and maintenance of its facilities within an agreed geographic area to a private operator for a period of time. Because the lessor effectively buys the rights to the income stream from the utility's operations (minus the lease payment), it assumes much of the commercial risk of the operations.

Option 4: BOT (Build Operate Transfer) Contract - Under Build-Operate-Transfer (BOT) or build-own-operate-transfer (BOOT) schemes the private sector typically designs, constructs and operates facilities, and provides services to municipal or government-owned service utilities. In contrast with lease contracts, BOT-type contracts allocate much more of the commercial risk for specific projects to private parties rather than governments. BOT contracts are similar to concessions, except that the company invests in building the utility and operates it over an agreed period, often decades. The government, or distribution utility, pays the contractor for the service provided (water or electricity, for instance) at a rate, which covers the building and operating costs, plus a reasonable rate of return. The utility must pay for all the water or electricity produced, even if not all that water or electricity is used. This places demand risk on the distribution utility or government.

Option 5: Concession contracts - Concession contracts combine elements of operation leases for existing assets and BOT contracts for greenfields. Under concession contracts, a private operator is given a contractual right to use existing infrastructure assets to supply customers and to finance and manage all capital extensions and upgrades to the existing services supplied.

Option 6: Divestiture - A full divestiture, like a concession, gives the private sector full responsibility for operations, maintenance and investment. However, unlike a concession, a divestiture transfers ownership of the assets to the private sector. This leaves the government responsible solely for regulation.

Step 4: Feasibility Management

The choice of the most viable PPP option for a municipality at a particular point in time will depend on a number of factors. These include, but are not limited to:

- Government and the community support, or the lack of such support, for private sector involvement
- Financial/ Commercial considerations and legal provisions
- The nature of the problem at hand - lack of investment funds, lack of expertise, low cost recovery mechanisms, low quality of the service provision, weak poverty reduction policy and so on
- Existing municipal and private sector capacity in terms of human resources, organizational development and regulatory framework
- Technological architecture for the state (centralized, decentralized, hybrid)
- Service Delivery Mechanisms (integrated citizen service centres, civic service centres, service provider model, internet based services).

Feasibility management should provide clear information concerning all existing and expected factors, which may support or oppose the implementation of the PPP options. Feasibility management of all PPP options requires:

- Analysis of a government commitment and community support for a certain option;
- Well-researched and negotiated legal contract
- Strong regulatory and institutional environment
- Analysis of the state of the utility, existing regulation, financial viability and risks.

However, it should be borne in mind that the quality of the written contract will play an important part in the ultimate success or failure of all possible PPP options. A good quality contract will, among other things, encompass an appropriate allocation of risks.

II.4.2 Implementation Steps for Municipalities

Step1: State Government/ULBs have to arrive at the category/categories of functions that they intend to cover in phases.

Step2: The State Government/ ULB has to decide on the size of the Implementation Unit, keeping in mind the resources, infrastructure, e-readiness and internal and external capacities for implementation.

Step3: State Government/ULB may decide on PPP Model(s) recommended for adoption.

Step 4: The State Government/ULB may pick up the relevant model discussed above customize the same to suit the exact requirements.

Step 5: The State Government/ULB may then issue the RFP for the selection of the partner /Implementing Agency, adopting a competitive bid process.

The above needs to be undertaken in line with the time frames indicated in the implementation time plan (page no. 51).

III. Way Forward

III.1 Next Steps

Mentioned below are the proposed key steps that State needs to undertake immediately on announcement of the NMMP. These include:

- States will need to designate a State Nodal Organization. The State Govt. should release funds for preparing State Municipality e-Governance roadmap and DPR to this designated State Nodal Organization.
- The State Government needs to convey to the MoUD and the Planning Commission, Government of India its selection of the designated State Nodal Organization
- Through the proposed roadmap, each state has to detail its “As-is” assessment of e-Governance projects (including the back-end infrastructure) and the plans for initiating e-Governance projects in ULBs.
- Based on the plans, state should prepare a proposal for capacity building (PeMT) in accordance with the guidelines issued by DIT under NeGP. This proposal should be sent to MoUD

As required under the scope of work, to facilitate guidance and implementation, Annexure 1 to 3 of this report provide guidance to the issue relating to the following:

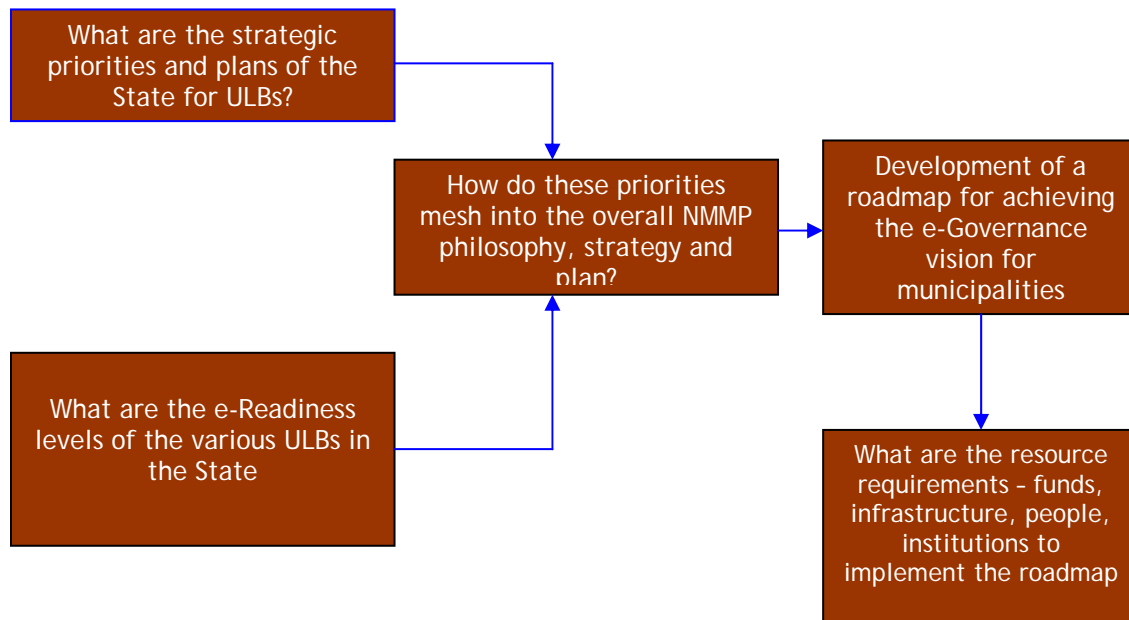
- Procurement Strategy for hiring of goods and services under NMMP
- Data entry
- Application Migration

III.2 State Municipalities e-Governance Roadmap

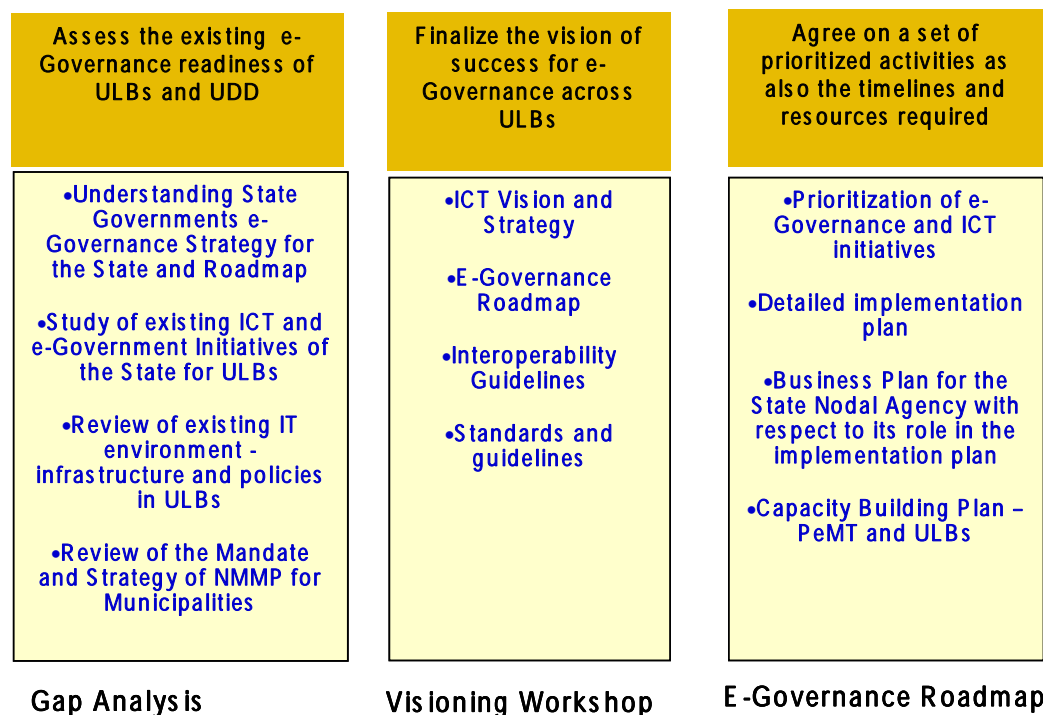
As part of the implementation strategy for NMMP it has been recommended that each state, before implementing the NMMP should with assistance from state implementation consultants, draw out a roadmap for implementing e-Governance in Municipalities. This would:

- Help in integrating e-Governance initiatives in municipalities with the overall State e-Governance Strategy, which has been mandated by Department of IT, GoI as part of the NeGP
- Build commitment to the project amongst all stakeholders
- Allow a mechanism for generating discussions within the State for the project and build consensus on the approach
- Allow a basis for projecting cost estimates for state-wide rollout, including phasing, ensuring project leverages all common infrastructure costs - State Wide Area Network, State Data Centre etc
- Bring in focus the legislative and business process changes that are required to achieve service level goals defined as part of the project design
- Help finalize and put in place the governance structure required to implement a project of this magnitude.

In this section, we have proposed a typical framework for developing an e-governance roadmap for implementing the NMMP in States. The following framework is based upon PricewaterhouseCoopers' experience in drawing out similar roadmaps, both at the national and international level. The overall approach to the strategy (roadmap) is presented pictorially below:



The proposed approach to prepare a roadmap for implementing e-Governance in municipalities can be depicted as below:



The State must first develop its vision for the implementation of e-Governance in municipalities (care must be taken to align the State's vision with the vision of the NMMP). Taking direction from the vision and mission statement of the State, the roadmap can then be drawn out. Some of the important components follow.

III.2.1 Governance Structure

Before even starting work on the e-Governance Roadmap for Municipalities, the State must put its administrative machinery in motion to put the governance structure in place. The governance structure at the state level has been described in detail in Section 1 of the Design Phase report.

III.2.2 As-Is and Gap Assessment

The first step in the approach towards preparing the roadmap for implementing e-Governance in municipalities involves an in-depth study of the current (or as-is) status of e-Governance of the State and the ULBs and undertaking a gap assessment.






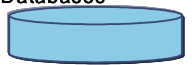



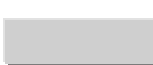





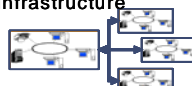














An effective current and gap assessment exercise must include surveys and recommendations from all the key stakeholders in the system. An iterative approach to as-is and gap assessment is often considered to be the most effective. The as-is assessment must look to capture/identify the e-Governance lifecycle stage of the State and the ULBs. The e-Governance lifecycle stage is split in four stages, each representing a different level of maturity with respect to IT enablement; is as shown in Table 12 below:

Table 12: Maturity levels of the States

Stage	Description
Stage I - Primary	The State/ULB primarily functions on manual/non-automated processes & procedures and there are very little or no IT Initiatives being currently taken up in the State/ ULB.
Stage II - Envision	The State/ULB has envisioned the IT enablement and automation of its Key Process. It has initiated the steps to develop the functional applications & databases and provide basic connectivity within a State.
Stage III - Integrate	The State/ULBs IT initiatives represent a mature stage with State/ ULB undertaking deployment of integrated applications and databases. Connectivity among different ULBs has been enabled to provide an integrated view of functioning. The State/ ULB has taken initiatives to implement several key IT policies and infrastructure.
Stage IV - Converge	The IT initiatives in the State/ULB are at an advanced stage with the integration within the State achieved in totality and State/ ULB providing an internet interface to enable anytime-anywhere services for the citizen. The State/ULB has implemented several IT policies and has appointed personnel to regulate, monitor and achieve efficiencies in its IT deployment and functioning.

Each of the stages discussed in the previous paragraphs are evaluated with reference to the following six key attributes representing the IT Lifecycle:

- Applications:** The development, deployment, integration and centralization of software applications in the ULB and its integration with several other applications at the state level.
- Databases:** The development, deployment, integration, centralization and updation mechanisms of databases of the ULB and the element of integration with the state-wide MIS and Data-warehousing repositories.
- Connectivity:** Electronic connectivity within and among various ULBs and its integration with statewide networks.
- Infrastructure:** Deployment of IT infrastructure - hardware, IT security infrastructure, middleware, etc., across all the ULBs and its conformance with the state-wide policies.
- Policies:** Implementation of key IT policies such as IT architecture, security policy, PPP model for e-governance, change management policy, privacy, etc.
- People:** Creation of an IT Savvy staff with a mature profile of IT personnel. Achieved through addressing aspects such as implementing a ULB level IS organization (to oversee elements such as IT standardization, system development, IT security) and well trained personnel in software applications and specialized skill sets such as systems administration, database administration, trouble shooting, networking, web and other emerging technologies, etc.

E-Governance Opportunity Areas	Stages in E-Governance Life Cycle			
	Stage - I	Stage - II	Stage - III	Stage - IV
Applications 				
Databases 				
Connectivity 				
Infrastructure 				
Policies 				
People 				

Based on the As-Is framework provided above, the gap assessment report, which highlights the stage at which, the State/ULB is currently with respect to the various e-Governance opportunity areas, would be represented as above.

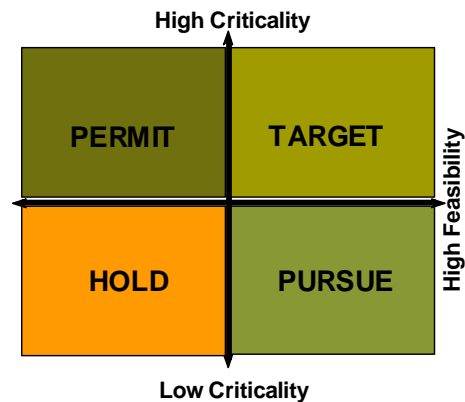
The gap assessment would also identify overlaps of IT initiatives between ICT Roadmap (vision and strategy) of other State/Central departments.

III.2.3 e-Governance Initiatives Prioritization Framework

Following the preparation of the gap assessment, the state needs to chalk out its priorities with respect to implementation of e-Governance initiatives. Nine modules have been identified under the NMMP for Municipalities for immediate implementation, while implementation of other modules has been left to the prerogative of the State Governments.

The State could employ the “e-Governance Initiatives Prioritization Framework” for prioritizing the implementation of modules in the ULBs. This framework will help the State evaluate potential applications and e-Governance services based on their criticality and feasibility and prioritize the funding of those services based on the following framework:

- **Defer** - If there is low criticality and low feasibility, the application should not be undertaken. Low criticality implies little gain and low feasibility implies relatively high risk.
- **Permit** - If there is low criticality but high feasibility, The State should allow the development of the application as long as it follows the standards and guidelines and uses common infrastructure to be created under NMMP/NeGP. Low criticality implies little gain, but high feasibility implies relatively few risks. This type of project should be allowed.
- **Pursue** - If there is high criticality but low feasibility, the State should allow the application to be built. High criticality implies that there is customer demand for such a service or that significant benefits could be realized from this application, but low feasibility implies that there may be significant risks.
- **Target** - If there is high criticality and high feasibility, the State should build this application. High criticality implies customer demand and benefits to the organization and high feasibility implies relatively few risks in pursuing this application.



The nine modules identified for immediate implementation would fall under the “Target” category, given their high criticality and high feasibility.

III.2.4 Preparation of e-Governance Strategy

The final input for preparation of a roadmap for implementation would be the e-Governance strategy. An e-governance blue print/strategy would have to be prepared for the State from the technology, people, process and financial perspective.

The state would have to dovetail the strategic priorities for the formation of an e-Governance strategy for the State/ ULBs. The state’s e-Governance priorities can be categorized into services, applications, infrastructure and policy perspectives.

The blue print should also identify and recommend opportunities and models for Private Public Partnerships (PPP) in municipalities.

The blue print should be prepared based on the research and analysis of international and national best practices with respect to identified modules to be implemented under the NMMP for municipalities.

III.2.5 Design of e-Governance Roadmap

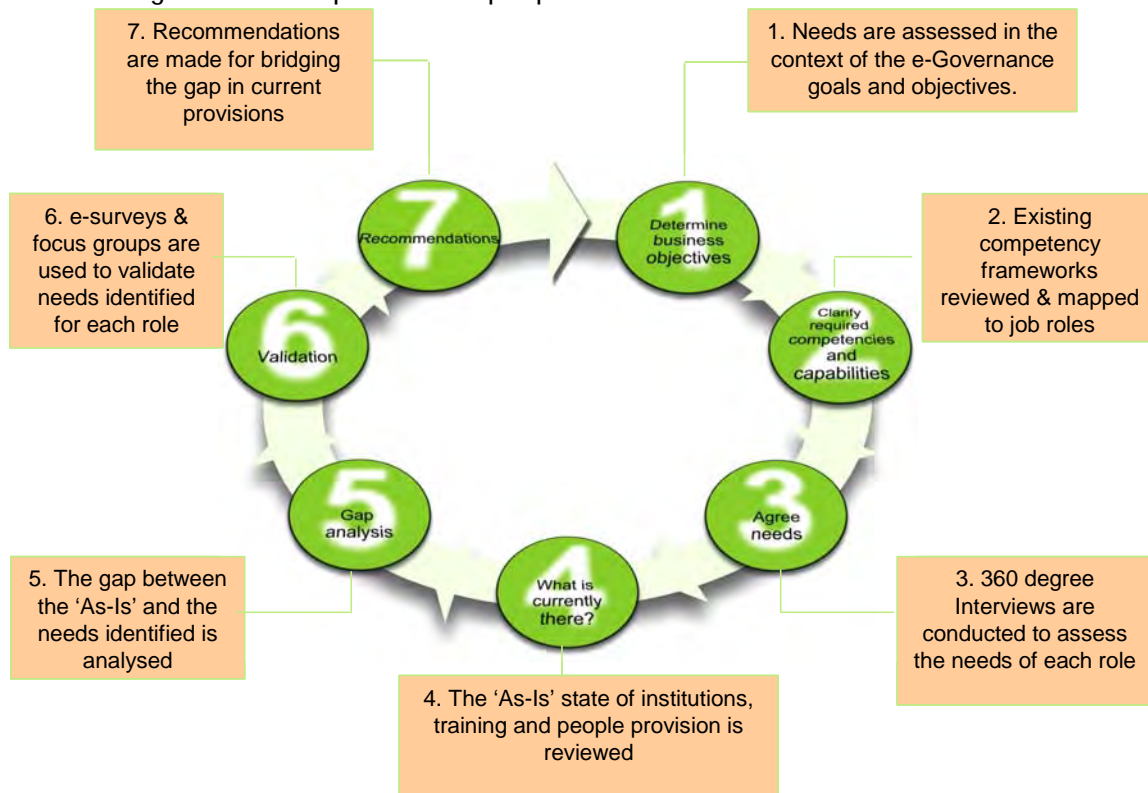
Based on the as-is & gap assessment, e-Governance strategy and IT architecture the roadmap for implementation of e-Governance in Municipalities should be drawn up. An essential exercise to be carried out as part of development of the roadmap would be the development of the implementation plan. The implementation plan should be designed taking into consideration the architecture agreed upon. The roadmap would also contain the phasing (geographic and functional) strategy for the project and the investment planning for each phase of the project.

Unique plans for implementation of e-Governance in each class of ULBs should be drawn up at this stage. Also included in the roadmap should be recommendations for the institutional framework and structures for supporting the formation and operation of the IS organizations at the project/ULB level.

III.2.6 Capacity Building Roadmap

An important aspect to be considered for projects of such size and criticality is capacity building. The roadmap for implementation of e-Governance in municipalities must contain detailed recommendations on capacity building; both at the State and ULB level. Based upon best practices we can say that there are three areas that would need to be specifically looked at as part of the preparation of a capacity building roadmap:

- Institutional structure
- Training needs, and
- Defining resource requirement - people and funds.



To prepare a capacity building roadmap, a structured methodology is recommended which is graphically depicted above and explained below.

Stage1- Determine Objectives

- Meet with key stakeholders from ULBs, State Government etc. to understand the strategic business issues and how e-governance project may impact the training needs.
- Produce a plan for the TNA process incorporating activities, milestones and deliverables for each stage and location.
- Produce a communications and stakeholder management plan to raise awareness.

Stage 2 - Clarify Roles of Institutions and Competencies

- Review the technical and professional competencies that are identified through discussions with key stakeholders.

- Understand how the competencies map to each existing capacity and institutions through discussions. These competencies would relate to change management, technology, financial management and programme management

- Develop a standard template for use during the needs analysis.

Stage 3 - Agree of Needs - Institutions, Resources and Training

- For achieving the overall e-Governance Vision institutional roles would need to be clarified with respect to the institution and training needs assessment and fulfillment.
- Review the list of jobs to identify roles with similar training needs that can be analyzed together. This will make the interview process more effective by reducing the number of interviews whilst identifying the needs of different roles in sufficient detail.

Stage 4 - Identify Current Provision

- Analyze existing structures to deploy capacities.
- Training and development currently in place for each job role.
- Mapping of the current training to the competency framework.
- Assess the effectiveness of current training at delivering the objectives.

Stage 5 - Gap Analysis

- Initial analysis of the performance gap identified using the results of the interview process and review of the current training and development provision.

Stage 6 - Validate Findings

- Validate the needs identified and confirm that the proposed solution will help deliver the strategic goals.

Stage 7 - Recommendations

- Produce a final report summarizing:
 - Institutional requirements
 - Technical skills, capabilities and knowledge required
 - Listing of current gaps across key areas of e-Governance
 - Preferred learning styles for each role and training area
 - Regional variations in training needs and preferred learning styles
 - Recommended solutions to meet the training needs identified

An indicative ToC for the State municipalities e-Governance strategy and roadmap and detailed project report to be prepared by PeMT for submission of project proposal to MoUD for approval under NeGP is presented as Annexure 4 & 5 respectively.

III.3 Immediate Activities

Presented overleaf is the proposed project implementation plan for Phase I. The plan attempts to highlight the key activities to be undertaken, their owners and their key interdependencies

Project Management Plan for the 35 ULB's - Phase I												
Activities	Responsibilities	2005					2006					
		Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Pre-Implementation Phase												
Finalization of the Programme Design Requirement	MoUD											
Finalize the Institutional Framework for Programme Implementation as mentioned in section	MoUD											
Creation the Programme Management Unit to Monitor the activities	MoUD											
Selection of Programme Management Consultants	MoUD											
Workshop with all the States regarding the Programme Objectives and Implementation Strategy	MoUD/ State/ Programme Consultants											
Implementation Phase												
Notice inviting application vendors for STQC certification against laid down design parameters	MoUD/ CoE/STQC/DIT											
Setting up the Institutional Framework for Project Implementation at the ULB's	State											
Creation of State Project Implementing Team with Key Stakeholders from the State and Centre	State											
Tendering and Selection of State Project Consultants	State											
Customization of the Functional Requirements and Design Specifications in accordance to the ULB's	State Project Consultants/ULB											
Preparation of the Detailed Project Plan	State Project Consultants/ULB											
Approval of the Detailed Project	MoUD											
Designing of the RFP for selection of Application customization for the core modules	State Project Consultants											
Designing of the RFP for selection of Data entry Vendors for Data entry	State Project Consultants											
Tendering, Evaluation and selection of the Application developer	State Project Consultants/State/ULB											
Tendering, Evaluation and selection of the data entry vendors	State Project Consultants/State/ULB											
Application Customization (Development of the Web portal and product customization of Core modules)	Application Developer											
Data Digitization (Entry and Validation) of the Manual records (Property tax , Water Tax)	Data entry Vendor /ULB											
Data Migration & Stabilisation	Application Developer/ ULB											
Site Preparation (Civil , Electrical and Infrastructure works etc)	State/ ULB											
Hardware Procurement (Tendering and Finalization)	State											
Certification of the application Quality	STQC or any other certification agency											
Training to the end users at ULB and State Level on the application	Application Developer / State Consultants											
Deployment of the application and hardware at the Sites	Application Developer / Hardware Vendor											
Training to the ULB end users on the To-be process	State Consultants											
Go- Live of the Computerized ULB's - Selected Modules	State Project Consultants/State/ULB											
Setting up of Call Centres	State											
Change Management	MoUD/Programme Consultants/State Project Consultants/State											
Project Management	MoUD/Programme Consultants/State Project Consultants/State											

Annexure 1: Procurement Strategy

The National Mission Mode Project for e-Governance in Municipalities (NMMP) is one of the largest and most complex programme proposed under the National e-Governance Plan of the Government of India. In order to address the complexity, reduce risks of failure and manage programme of this magnitude, procurement of many Goods (Hardware, Consumables, etc.) and Services (State Implementation Consultants, Application vendor etc) is required. The table below indicates various strategies that can be used for procurement of these Goods and Services.

S.No	Goods/Services	Procurement Strategy	Responsibility
1.	Programme Implementation Phase Consultants	<ul style="list-style-type: none"> Tendering process for inviting the bidders Selection can be done on basis of Technical and financial Qualifications Selection on basis of Past relevant experiences 	MoUD/DIT
2.	State Level implementation Consultants	<ul style="list-style-type: none"> Tendering process for inviting the bidders Selection can be done on basis of Technical and financial Qualifications Selection on basis of Past relevant experiences To reduce time taken and duplication of activity, MoUD can prepare a panel of such consultants, which can then be used by State Governments to approach and appoint 	MoUD and Respective State Municipal Administrative Departments
3.	Application Vendor	<ul style="list-style-type: none"> All applications need to be certified by STQC List of empanelled application vendors by STQC/MoUD State to invite tenders from the empanelled list Selection can be done on basis of Technical and financial Qualifications Selection on basis of Past relevant experiences 	STQC/ State Municipal Administrative Departments/State Implementation Consultants
4.	Hardware & Network components	<ul style="list-style-type: none"> Hardware specifications to be designed by the Application Vendor RFP for the hardware to be designed by the State Implementation consultants Tendering process for inviting the bidders for large scale 	State Municipal Administrative Departments/State Implementation Consultants/Application vendor

		<p>procurement</p> <ul style="list-style-type: none"> • Selection can be done on basis of Technical and financial Qualifications • Selection on basis of Past relevant experiences 	
5.	Facilities Management System	<ul style="list-style-type: none"> • RFP to be designed by the State level consultants • Tendering process for inviting the bidders for Facilities Management • Selection can be done on basis of Technical and financial Qualifications • Selection on basis of Past relevant experiences 	State Municipal Administrative Departments/State Implementation Consultants
6.	Consumables	<ul style="list-style-type: none"> • Specifications to be designed by the PIU and Facilities management team • Procurement can be done at the local ULB level 	ULB PIU/Facilities Management Team
7.	Data Digitization Operators	<ul style="list-style-type: none"> • Application for data entry to be designed by Application vendor • RFP for selection to be designed by the State level consultants • Tendering process for inviting the bidders for data digitization • Selection can be done on basis of Technical and financial Qualifications • Selection on basis of Past relevant experiences 	State Municipal Administrative Departments/State Implementation Consultants/Application Vendor

Annexure 2: Data Digitation Vendor - Scope

Objective

Many of the key benefits, which State Municipal Department seeks to realize from the roll-out of Application software, such as anywhere anytime services, faster transaction time, achieving higher service levels, increased revenue through better management and monitoring of outstandings, improvement of citizen appreciation of the services provided by the department, etc., are directly dependent upon the data which supports these functions.

Currently in the ULBs most of the processes are manually executed. The information/data captured is paper based. However, once the proposed software system is deployed, it would require several data inputs in the form of master data, transaction data and several other balances for citizen transactions in the electronic form.

The State Municipal department has rightly identified the data conversion and digitization as being crucial to the success of its e-governance program and the realization of anticipated business benefits. Availability of accurate, high quality data is central to the realization of it's vision for a world-class citizen service centre and the provision of world-class service to the citizens.

It is therefore crucial that all the existing manual data is digitized and converted into electronic form in a time-bound, error free approach so as to enable the successful and effective functioning of the proposed application.

Scope of Work

The bidder would undertake the following tasks:

The services/processes for which, the data digitization is being attempted by DMA include the following:

Detailed list of services for the core nine modules in the ULBs needs to be given

Locations

The data digitisation work needs to be carried out at the following ULBs, grouped under ____ zones. Please note that the actual load/quantum of work varies from one ULB to another, depending on the level of computerisation, activity levels at these ULBs etc.

Based on the revenue generations, ULBs are further categorized into the following grades

S.No	Grade	Annual Revenue
	Third Grade	Rupees One Crore or less than One Crore
	Second Grade	Rupees more than One Crore and less than Two Crores
	First Grade	Rupees more than Two Crores and less than Three Crores
	Special Grade	Rupees more than Three Crores and less than Four Crores
	Selection Grade	Rupees Four Crores and above

Estimated volume of data (to be digitized)

The bidder should also conduct a Volume Assessment Study in each of the ULBs, covering 'As Is' study of the records, their form and content, extent of computerization (partial, full) etc. leading to the volume assessment of data digitization in terms of no. of records to be digitized at each of the ULBs. The bidder should factor the cost of this study into his commercial quote (not as a separate cost item) on a per record basis.

KEYING INFORMATION FROM DATA SHEETS -BIDDER 's RESPONSIBILITIES

The bidder will be responsible for receiving the data sheets/records/registers from the ULBs and keying in information, and delivering the products. The bidder will be responsible for guaranteeing the quality of the database and delivery media. The following sections describe bidder's project responsibilities.

- Receiving and Housing Material from ULBs
- The bidder must acknowledge receipt of each Datasheet register and its contents. If any discrepancies to these details are found, or the originals and/or accompanying instructions are problematic, the bidder will inform ULB immediately.
- The bidder will insure the Data sheets/registers, at no extra charge to ULB, against loss or damage while in possession of the bidder up to a per limit of Rs. One lakh per lakh records being digitised by it.
- Description of Information to be Keyed from Data Sheets
- Although the Data Sheets may slightly vary in their appearance from one ULB to another, the information to be keyed is laid out in the same pattern on. Should the layout be significantly different for any given ULB, within a given zone, DMA staff will mark the Data Sheets for clarity.
- Instructions for Inputting Information from Data Sheets:
- Data Sheets will be keyed in first to create the database. Any corrections to the Data sheets can only be made by authorized personnel and communicated in writing to the bidder. Only on this basis, can the bidder add the additional information and make the corrections in the database.
- Some Data Sheets may have handwritten annotations, edits, and corrections. The bidder will follow the handwritten annotations only. For example, if a

word or sentence has been crossed out, the bidder will not input that sequence. If a word has been written in, the bidder will input that word. If any information on a slip is illegible or ambiguous, the bidder will input as much as can be read, and will flag the item for ULBs clearance in writing as directed above.

Error Correction

Upon notification from the State Municipal department, the bidder will make all necessary adjustments and replace the unacceptable metadata to achieve an acceptable level of quality as specified in this RFP. Corrections identified during the State Municipal department inspection process will be made at the bidder's expense and at no additional charge to State Municipal department. The bidder will reproduce the unacceptable products within 14 working days of the bidder having received the item(s) for correction. Any extra costs resulting from such errors will be borne by the bidder.

Output/Delivery Media

State Municipal department prefers to receive all database files from the bidder on CD-R media. The CDs should comply with the ISO-9660 standard. The bidder will propose a convention for eye-legible labeling of the CDs and will provide a separate register of all the files on that CD as a Read-Me text file on the CD.

Returning Data Sheets/Registers:

Return of all Data Sheets/Registers and all deliveries to State Municipal department will be made according to a schedule to be mutually agreed with State Municipal department. The bidder will be responsible for all costs associated with the delivery of the outputs etc., to State Municipal department.

Annexure 3: Application Migration Strategy

The NMMP envisages implementation of a common and standard e-Governance solution across all ULBs in a State. It also assumes that funding under NMMP for a ULB would be for implementing most, if not all the modules so that the objectives and outcomes of the NMMP are achieved.

This approach is likely to through some significant challenges relating to upgrading/enhancing/reusing existing applications. This would arise, since different State Governments/ULBs are at varying level of maturity in terms of technology and infrastructure requirements. Some of the key questions that State/ULBs need to answer include:

- Question 1 - Would the benefits of funding under NMMP be more than investments already made?
- Question 2 - If yes, what would be the approach to integrate existing investments and initiatives across ULBs in a State with those proposed under NMMP?

While, the answer to the first question has to be taken up by the state at a strategic level, this annexure provides guidance to the question 2. It may be noted that this annexure provides the approach (keeping the following implementation issues in mind), the detailed standards for integration technologies is discussed in Section 3 of the report.

- Cost benefit analysis for going in for new system vs. continuing with the current system (assuming the existing system does not address all the modules proposed under NMMP)
- Data migration strategy for existing digitized data
- Integration between existing functional modules with accounting modules

The integration between functional modules and accounting is a key issue that has not been addressed in most cases. Various modules (property tax, building plan approval, works module, etc.) exist as stand-alone modules. This coupled with lack of integration with the accounting module, undermines the integrity of data and reliability of MIS for the proper management of the ULBs.

As mentioned in the Assessment report many ULBs have implemented different e-Governance modules and achieved significant level of success. The table given below presents the status of some of the ULBs in e-Governance Module Implementation

Modules	Hyderabad	Vizag	Bangalore	Coimbatore	Trichy	Kalyan	Mumbai
1. Property Tax	F	F	F	F	F	F	NS
2. Accounting	F	F	F	F	N	F	NS
3. Ward Works	P	N	F	P	N	P	NS
4. Births and Deaths	F	F	F	F	F	F	NS

5. Water Supply	NA	F	NA	F	N	F	NS
6. Citizens Grievances Monitoring	F	F	F	F	N	F	F
7. Building Plan Approval	N	N	N	N	N	P	NS
8. e-Procurement	N	N	N	N	N	N	NS
9. Personnel Management System	P	P	P	N	N	P	NS
10. Other key modules introduced	Trade License (P), Advt. Tax (P)	Expenditure Mgmt System (P), Tax Collection Module (F)	GIS (P)	Non Tax Module (F)	Non Tax Module (F)	Food & Trade License (P), Legal Module (F)	NS

F - Implemented and functional

P - Partially implemented/under implementation

N - Not implemented

NA - Not Applicable

NS - Not in the scope of Assessment Phase

This section has been designed to provide guidance to the states during the transition stage from the legacy system to the new system, particularly during implementation of the proposed application with all core nine e-Governance Modules. The various steps that can be undertaken by the State level consultants in designing the solution is given below (Indicative)

Step1: Assess the Current IS Environment of the ULBs

- Prepare an inventory of existing applications and assess adequacy of each of the applications
- Obtain a list of applications in use, whether provided State or ULBs. All applications which perform significant functional processing should be included, but personalized applications constructed using spreadsheets, or other PC-based tools, need not be included. Document these applications in the Systems Inventory form. This form requires the listing of all significant operational application systems
- Determine the criteria to be used in selecting the application systems relevant to the scope and objectives of the project. This should be completed by senior officials of State Municipal department/ULBs, key stakeholders etc.
- It would include information systems that presently exist within ULBs
- There may be various classifications of information systems, such as
 - Mandatory,
 - Strategic,
 - Traditional, and

- Infrastructure.
- For each application, establish the following.
 - Basic description of functionality
 - Organizational units served
 - Approximate numbers of users
 - Platforms
 - Date first developed
- Obtain similar information about the application backlog, including all developments currently underway and those firmly planned (i.e., those already in IT plans, or for which budget approval has been gained).
- Develop a matrix showing the support for the processes by various applications

Step2: Develop Solution Architecture

The purpose of this stage is to develop solution architecture to form a basis for defining target applications. This is accomplished in two steps: first developing initial solution architecture by completing a cluster analysis of the elementary processes, linkages and then refining the initial architecture based on IS opportunities and other ULBs considerations. The functional requirements of the new Application should in accordance to the Design Phase Document and STQC recommendations

Steps involved in the overall process of designing solution architecture include:

- Review information system issues and opportunities for improvement
- Review the information system-related issues and the opportunities for improvement identified in the earlier analysis tasks. Specifically, focus on information system (IS) opportunities based on information use and management requirements associated with the following:
 - Changing external environment
 - High-level restructuring
 - Potential use of emerging technologies for the benefit of the organization and various other stakeholders
- Solution elements are drafted by identifying the critical components of the external environment, and key linkages between the State/ULBs and those external environment components. Consider how those relationships may or should change in the next three to five years. Brainstorming triggers include discussing how IS can be used to support strategic plans, such as:
 - Changing the basis of functioning by becoming the more efficient and effective, saving costs, providing better quality services, better utilization of funds, ease of interface with external agencies etc.
 - Brining about an organizational change within the ULBs

Develop Application Portfolio

The purpose of this task is to envision the target applications portfolio, including a preliminary definition of the functional requirements of these applications. This also includes mapping applications with processes, performing benefit analysis and prioritizing application development. The target application should be developed should be in conformance to the Functional and architectural requirements of NMMP Design Phase documentation and STQC Guidelines.

Identify current applications to be retained, enhanced or replaced

Compare the initial solution architecture to current applications to identify the current applications to be retained, enhanced, or replaced in the target environment:

- Match the systems architecture with current applications which support the same processes and/or use the same data entities.
- Examine and compare the characteristics of the matched target and current applications, focusing on their functional descriptions, and their data usage characteristics (type of usage such as create, use, or modify; type of data used such as global, local or personal).
- Identify current applications which should be retained (those having the same functional and data usage characteristics as the initial systems architecture), enhanced/renewed (those having a majority of common functional and data usage characteristics), or replaced (those having few common functional and data usage characteristics)
- Identify integration mechanisms/solutions between legacy and new applications

Define new applications

Examine the initial solution architecture which have not been mapped to any current applications and determine:

- Those that correspond to current applications under development
- Those that should be considered as requiring new application developments in the target environment
- Those that should be subjected to further review for inclusion in the target environment

At this point, the preliminary applications can be classified, in relation to the current applications, as those:

- Directly relating to the current applications to be retained
- Requiring enhancements to the related current applications
- Requiring new system developments (including current system development projects)

Categorize the target applications

Categorize the target applications (TA) based on the nature of the application systems and the nature of the functions they support. The TAs defined may be of various types such as office automation, end-user computing, operations support, decision support, management information, and real-time processing and control. These TAs may also be categorized based on the nature of the applications they support:

- Mandatory applications: essential for the ULBs (e.g., Property Tax)
- Traditional applications: support management and operational needs of the organization (e.g., Accounting)
- Infrastructure applications: infrastructure development projects supporting current and/or future IS capability needs (e.g., developing a technology infrastructure enabling electronic alliances such as that State and ULBs)

Data Migration

During the initial phases of the project, electronic repositories maintained by client are documented. They are categorized according to criticality, correctness, and available format. Source of each data item is identified, whether the data would be available from maintained legacy systems, paper documents or other external agencies. All data that could be available from legacy systems is captured by data migration mode. The approach for data migration from existing systems

- Develop a mapping document elaborating how and which legacy systems' data items map to the to-be system. This would also document fidelity checkpoints for the to-be data items, against which the legacy data might be cleansed
- Develop extractor programs to extract data from the legacy system and load intermediate interface database tables
- Validation and data messaging programs to auto clean, to the extent possible, the legacy data to fit to the to-be system. A checklist would be printed showing all auto corrections done and the remaining data that need to be corrected
- Develop uploader program to upload the clean data from the interface tables to the to-be systems' tables.

Annexure 4: Template for e-Governance Roadmap

Objective

An e-Governance Roadmap enables the State governments to identify the broad human and technological imperatives of e-Governance and the steps that need to be taken by the government in order to extend the benefits of e-Governance to all the stakeholders in government i.e. citizens, businesses, employees, local governmental bodies and other governments.

Scope of Work

Understanding State's Vision, Objectives & Govt Reforms

- Review and assess mission, vision, strategy and critical success factors of the Municipality e-governance initiatives.
- Interview/meetings with the key stakeholders to understand the vision, IT policy, priorities and the key information needs of the State Municipal department.
- Determine and priorities business needs and business benefits.

Study of completed, current & planned IT initiatives/E-Gov Programmes

- Assess the ongoing, completed and planned IT initiatives/e-Governance programs in ULBs of the State Government.
- Assessment of strategies being adopted, process being reformed and technologies deployed for these IT initiatives.

Assessment of current IT Environment

- Assess existing environment, both in terms of processes and IT infrastructure such as applications and other architecture components and also understand the initiatives that are in progress based on study of the ULBs of the State Government.

Assessment & Gap Analysis of IT Initiatives

- Assessment & gap analysis of IT enablement objectives and initiatives of ULBS and other govt. departments.
- Identification of overlap of IT initiatives between the ULBs.

Preparation of E-Governance Strategy

- Dovetail the strategic priorities into e-Governance Blue Print for the Municipal Directorate at State from:
 - Services
 - Applications
 - Infrastructure and
 - Policy perspective.
- Identification of opportunities for Private Public Partnerships (PPP) in e-governance initiatives.
- Design of Project management framework for monitoring the progress of identified e-governance initiatives.

Develop IT Architecture

- Assess the information needs at different levels of usage and for different purposes.
- Assess the data sources, storage locations, data flow paths, etc.
- Evaluate the application interoperability requirements and define technology architecture & standards.
- Assess the pros and cons of various architectures (Centralized, de-centralized, hybrid, etc).
- Determine the target architecture (basis for determining the future deliverables).
- Assess redundancy and disaster recovery strategies.

Design E-Governance Roadmap

- Develop implementation plan, taking into consideration the architecture discussed above
- Implementation Planning:
 - Assess the interdependencies of departments
 - Analyze and determine the phasing of projects
- Develop project specific plans
- Support in the formation of IS organization

Annexure 5: Template for Detailed Project Reports

The objective of preparing the detailed project report is to clearly define the service and delivery framework proposed for the Municipalities MMP projects by the states based upon a clearly defined sustainability model. In preparing the Detailed Project Report (DPR), the followings tasks need to be undertaken:

- Carrying out a detailed study of existing initiatives of the ULBs including study of current service levels and baseline survey to validate the current service levels to allow for development of a result based framework for subsequent impact assessment.
- Development of a clear service delivery (citizen centric) strategy with clearly defined service goals covering all major citizen centric services provided by the Department.
- Identification of gaps in the current service delivery - process, institutional and financial.
- Assessment of linkages of the project with other projects (inputs/outputs) as well as the strategy for using common core infrastructure proposed under NEGP.
- Clear identification of target beneficiaries through participatory stakeholder analysis.
- Need for Process and Legal Reform required to implement the proposed e-Governance Initiative and realize the benefits proposed.
- Assessment of possible Technology Solutions and cost benefit analysis of the selection.
- Assessment of the functional requirements to meet users needs.
- Assessment of capacity needs for ensuring smooth implementation, sustainability and monitoring of the entire implementation of the project.
- Description on the means of project finance, evaluation of options, project budget, cost estimates and phasing of expenditure. The various options for cost sharing and cost recovery (user charges) should be considered and built into the total project cost.
- Identification and assessment of project risks and how these are proposed to be mitigated. Risk analysis could include technology risks, legal/contractual risks, project management risks, capacity risk, etc.
- Extent of support required from the central and state government in the form of legislative changes, legal amendments, infrastructure, etc.

The template below is designed to serve as a format for preparing a project report for estimating the financial requirement by States for implementing Municipalities Mission Mode Project.

Project Description

- Description of the services currently being provided by the State Government/ULBs.
- Description of current organization structure in the state for delivery of services under the Municipal department and the base of citizens serviced.

- Analysis of existing limitations and weakness in the delivery of government services –institutional and financial.
- Description of the existing level of computerization/e-Governance initiatives in the ULBs and the current status.
- Brief description of the proposed project including likely service benefits.

Project Objectives, Service Levels & Output Indicators

- This section needs to briefly describe the areas that Municipality application will cover (information and transaction).
- This could be in terms of G2C, G2B and G2G.
- Preliminary description of existing and Target service levels, in case any base line surveys are available. Even if base line surveys are not available regarding the existing service levels, a quick sampling to determine the existing service levels should be done. Most importantly, the targeted service levels should be clearly quantified.

Project Approach & Component detailing

- In this section of the template a brief description of the key components for the Project needs to be highlighted.
- In case details are available, a brief description of each of the component may also be provided here.
- The self-sustainability of the project is one of the most important objectives after the citizen services, simply because it ensures the continuity of the services to the citizens without the dependence on external sources of funds. An assessment of whether PPP models can be used for sustainability also needs to be commented upon
 - System requirements
 - Plan for Development and Implementation of the Application
 - Plan for Training of users/Change Management for staff.

Process/Inputs and Project Monitoring Indicators

- In this section preliminary details may be with respect to the implementing and monitoring plan.
- A broad approach to be followed to implement each of the component including likely outputs may also be provided in this section.

Project Costing & Expected Benefits

- This section should highlight the broad cost estimates to implement the project proposal.
- Two alternate templates for the same are placed below. This can be suitably modified to reflect requirements in the instant case.

Key cost heads	Costs in INR
Charges for Agency services /consultancy charges for various components including training	6,875,000
Charges of professionals/ experts	
Travel, Boarding, lodging and other incidentals of Agency	2,062,500
Cost of Research / Survey / Publications / reference material	100,000
Cost of hardware (servers, PCs, peripherals, electrical accessories etc.)	6,900,000
Cost of Installation and integration services	1,000,000
Cost of Software/applications/licenses	Application development thru agency
Maintenance cost of IT infrastructure for 3 years	1,725,000
TOTAL	18,662,500

National Mission Mode Project for e-Governance in Municipalities (NMMP) - Design Phase
Section 4 - Implementation Plan

Name of the Mission Mode Project:					
Implementing Agency:					
Expected Date of Completion:					
Estimate Costs in Implementation of Mission Mode Project					
S. No	Estimates	Cost/unit	Assumed Requirement	Assumed units reqd	Investment
Hardware/infrastructure					
1	Web Server				
2	Application Server				
3	Database Server				
4	Development Server (For testing before implementing				
5	Network Devices including Switches etc				
6	Firewall				
7	Routers				
8	Fibre Optic Lines for WAN				
9	Leased Lines				
10	Workstations				
11	Printers				
12	UPS				
13	Peripherals				
I	Total Hardware Cost				
Software					
1	Application Software				
2	Application Server License				
3	Database Software				
4	Client Software				
5	Report Writer				
I	Total Software Cost				
Technical Assistance					
1	Software Customization to meet requirements, Costs Include : project management, integration, modifications report writing, travel & expenses etc.				
2	data conversion (supervision/technical support)				
3	Deployment and technical and end user training				
4	Internal Manpower				
I	Total Cost				
Implementing Agency - Initial Cost / Infrastructure Cost					
	1st Year Investment				
1	Data entry/ conversion to create integrated database				
2	Tendering, project management and implementation, support in fns, re-engineering, training (user skills) misc.				
3	Development of site to house servers				
4	Space requirement for housing facilities				
I.a	Total Cost				
Annual costs - O&M					
1	AMC for hardware				
2	Insurance of Hardware				
3	Software License				
4	Consultants on - going support - costs				
5	On-going Communications Costs				
6	Expenses (supplies, power, system administrator)				
I.b	Total Annual Cost				
Financing Cost					
1	Interest Cost				
Disaster Back-up					
1	Database Server				
2	Database Software				
3	Firewall				
4	Networking				
5	UPS				
6	Development of site to house server				

Implementation Timelines

- This section should estimate the time frame for completing the project including interim milestone and timeframe.

Impact Assessment:

- The success criteria to assess whether the objectives have been achieved should be spelt out in measurable terms. This could be done by setting-up evaluation metrics for each output of the project. The proposal must incorporate the approach and methodology of an 'Impact assessment study' that should to be undertaken at the end of the project to document key learnings.

List of Abbreviations

BCP:	Business Continuity Planning
BPR:	Business Process Reengineering
DIT:	Department of Information Technology
Gol:	Government of India
GPR:	Government Process Reengineering
IC:	Implementation Committee
ICT:	Information and Communications Technology
MMP:	Mission Mode Project
MoUD:	Ministry of Urban Development
NeGP:	National e-Governance Plan
NGO:	Non-Government Organization
PeMT:	Project e-Governance Mission Team
PPP:	Public Private Partnership
SeMT:	State e-Governance Mission Team
ULB	Urban Local Body